### LEARNING DAY

Committee for the Natural Sciences Tripos Learning Day for first-year students.

This event will give new undergraduates an introduction to 'the Cambridge teaching system', study skills and stress management. The sessions are informal and detailed timetables are available from Senior Tutors.

**Wednesday, 6 October 1999:** Chemistry Lecture Theatre 1, Lensfield Road, 2–4.30 p.m.

### BIOLOGY OF CELLS

Course Co-ordinator: Prof. C. M. Bate E-mail: cmb16@cus.cam.ac.uk

All lectures are in the Babbage Lecture Theatre, on the New Museums site on M. W. F. 10. Practical work takes place in the Zoological Laboratory at 11–1 and 2–4 on M or W or F. For those doing Geology, practical times are 12–1 and 2–5; and for those doing Materials and Mineral Sciences times are 11–12 and 2–5.

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr S. H. P. Maddrell</td>
<td>The Living Cell (Four lectures)</td>
</tr>
<tr>
<td>Dr D. J. Ellar</td>
<td>Macromolecules in the Cell (Five lectures)</td>
</tr>
<tr>
<td>Dr M. A. Tester</td>
<td>Membranes: Molecular Superstructures (Five lectures)</td>
</tr>
<tr>
<td>Dr K. V. Brindley</td>
<td>Utilisation of Fuel Molecules (Four lectures)</td>
</tr>
<tr>
<td>Dr A. G. Smith</td>
<td>Energy Transduction and Biosynthesis (Six lectures)</td>
</tr>
<tr>
<td>Dr A. Mullinger, Dr P. E. Reynolds and Dr J. Davies</td>
<td>Practical work</td>
</tr>
<tr>
<td>Dr D. K. Summers</td>
<td>Hunting the Gene (Seven lectures)</td>
</tr>
<tr>
<td>Dr C. J. Howe</td>
<td>Genes in Action (Six lectures)</td>
</tr>
<tr>
<td>Dr D. Macdonald</td>
<td>The Genetic Revolution (Six lectures)</td>
</tr>
<tr>
<td>Prof. R. A. Laskey</td>
<td>Cell Proliferation (Five lectures)</td>
</tr>
<tr>
<td>Dr D. K. Summers, Dr C. J. Howe and Dr D. Hanke</td>
<td>Practical work</td>
</tr>
</tbody>
</table>

### BIOLOGY OF ORGANISMS

Course Co-ordinator: Dr M. Tester E-mail: mat10@cam.ac.uk

All lectures will be given in the Department of Zoology Tu. Th. S. 11

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr W. A. Foster</td>
<td>Natural Selection and Animal Diversity (Six lectures)</td>
</tr>
<tr>
<td>Dr R. S. K. Barnes</td>
<td>Evolution and Animal Diversity (Twelve lectures)</td>
</tr>
<tr>
<td>Dr R. G. Boutiliier</td>
<td>Physiological Ecology and Evolution (Six lectures)</td>
</tr>
<tr>
<td>Dr W. A. Foster, Dr R. S. K. Barnes and Dr R. G. Boutiliier</td>
<td>Practical Work. M. 11–1, 2–4 or Tu. 12–1, 2–5 Department of Zoology</td>
</tr>
<tr>
<td>Dr D. E. Hanke</td>
<td>Biology of Seed Plants (Sixteen lectures)</td>
</tr>
<tr>
<td>Dr J. M. Davies</td>
<td>Biology of Fungi (Four lectures)</td>
</tr>
<tr>
<td>Dr J. P. Carr</td>
<td>Plants and their Enemies (Four lectures)</td>
</tr>
<tr>
<td>Dr M. A. Tester and Dr J. P. Carr</td>
<td>Practical Work. M. 11–1, 2–4 or Tu. 12–1, 2–5 Department of Plant Sciences</td>
</tr>
</tbody>
</table>

### CHEMISTRY

Course Co-ordinator: Dr J. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in Lecture Room 1, Department of Chemistry, Lensfield Road on Tu. Th. S. 10

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr P. D. Wothers</td>
<td>Shapes and Structures of Molecules (Sixteen lectures)</td>
</tr>
<tr>
<td>Dr S. Balasubramanian</td>
<td>Chemical Reactions (Eight lectures)</td>
</tr>
<tr>
<td>Dr P. D. Wothers</td>
<td>Department of Plant Sciences</td>
</tr>
<tr>
<td>Dr S. Balasubramanian</td>
<td>Chemical Reactions (Four lectures, continued)</td>
</tr>
<tr>
<td>Dr J. H. Keeler</td>
<td>Kinetics of Reactions (Ten lectures)</td>
</tr>
<tr>
<td>Dr J. A. Barrett and Dr P. O’Donald</td>
<td>Evolution and Genetics (Twelve lectures)</td>
</tr>
<tr>
<td>Dr J. A. Barrett</td>
<td>Practical Work. M. 11–1, 2–4 or Tu. 12–1, 2–5 Department of Plant Sciences</td>
</tr>
<tr>
<td>Dr P. D. Wothers</td>
<td>Chemistry of the Elements (Twelve lectures)</td>
</tr>
<tr>
<td>Dr P. D. Wothers</td>
<td>Practical Chemistry Attendance days as for Michaelmas Term</td>
</tr>
</tbody>
</table>

Practical Chemistry. M. F. 10–12 or 11–1 and 2–5; Tu. Th. 11–1 and 2–5. Students should register in the Department of Chemistry, Lensfield Road, between 8.30 and 12.30 or 2 and 4.30 on Tuesday, 5 Oct. when they will be assigned attendance on the morning and afternoon periods of one particular day in either odd weeks (beginning Th. 7 Oct.) or even weeks (beginning Th. 14 Oct.) of the term.
COMPUTING COURSE FOR PHYSICAL SCIENTISTS

Course A is intended to be that which is normally taken. Course B takes place outside lecture term and is intended for undergraduates reading Biology of Organisms. The two courses will be identical in content.

Course A

DR F. H. KING
Scientific Computing. Tu. S. 11 (Six lectures, beginning 9 Nov.) or Th. S. 11 (Six lectures, beginning 11 Nov.)
Chemical Laboratory, Lensfield Road
DR F. H. KING
Practical work1. Registration for a total of one hour of formal practical work will take place in the first lecture

Course B

DR F. H. KING
Scientific Computing. Th. F. S. 9 (Two and a half days, beginning 2 Dec.)
Old Music School
(Dr Lower classroom), Downing Place
DR F. H. KING
Practical work1. This will be included in the three-day period

1 The computing facilities used for practical work will be available for informal use throughout the year.

ELEMENTARY MATHEMATICS FOR BIOLOGISTS

All lectures and examples classes will take place in the Hopkinson Lecture Room, New Museums Site

DR F. H. KING AND MR J. J. TRAPP
Mathematics and the Use of Mathcad*. M. W. F. 9

MRS E. M. ALDWORTH
Biometry. M. W. F. 9 (Sixteen lectures)

DR R. D. H. WALKER
Elementary Calculus. M. W. F. 9
(Six lectures, beginning 28 Feb.)

DR F. H. KING AND MISS C. H. NORTHEAST
Assessed Computing Exercise. M. 9
(One class, 13 Mar.)

Examples Class. Th. 2 (beginning 21 Oct.)

DR N. J. BUTTERFIELD
Palaeobiology (Eleven lectures)

DR N. HOVius
Earth Surface Processes and Sediments
(Twelve lectures)

DR P. F. FRIEND
Introduction to Geology of Arran
(One lecture)

Field Course in Arran
Party C. 30 Mar.–7 Apr.

Practical work: There are three one-hour practicals to be taken per week: one during the periods Tu. 10–1, W. 9–1, one during Th. 10–1, W. 9–1, and the third during S. 10–11, M. 9–1. Students must register for practical classes in the Department of Earth Sciences on Monday, 4 or Tuesday, 5 October between 9.30 and 1 or 2.30 and 5.

Long Vacation Course: A course on Geological Field Methods will be given 26 June–6 July 2000 for students intending to take a geological subject.
NATURAL SCIENCES TRIPPOS, PART IA (continued)

MATERIALS AND MINERAL SCIENCES
Course Co-ordinator: Dr S. A. T. Redfern E-mail: Part IA@msm.cam.ac.uk
This course is offered jointly by the Department of Materials Science and Metallurgy and the Department of Earth Sciences.

All lectures are held in the Babbage Lecture Theatre on M. W. F. 12

DR S. A. T. REDFERN
Structure of Materials (Twelve lectures)

DR D. M. KNOWLES
Mechanical Behaviour (Twelve lectures)

DR D. C. PYLEx
Phase Equilibria (Seven lectures)

DR J. A. LITTLE
Diffraction and Imaging (Eleven lectures)

DR I. FARNAN
Anisotropic Properties (Six lectures)

Annual Materials and Minerals Lecture
A public lecture on advances in Materials and Mineral Sciences. Th. 5 (16 Mar.)
Babbage Lecture Theatre

Course A
DR P. H. HAYNES
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 24 Feb.)
Physiological Laboratory
Examples Class. W. 4.30–6 (Two classes, 9, 23 Feb.)

DR F. H. KING
Computing Techniques and Applications**. Tu. Th. S. 9
(Six lectures, beginning 26 Feb.)
Chemical Laboratory

Course B
DR A. T. WINTER
Mathematics I. Tu. Th. S. 9 Chemical Laboratory
Examples class. W. 4.30–6 (Four classes, 20 Oct., 3, 17 Nov., 1 Dec.) Arts School, Room A

Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 24 Feb.) Chemical Laboratory
Examples Class. W. 4.30–6 (Two classes, 16 Feb., 1 Mar.) Arts School, Room A

DR F. H. KING
Computing Techniques and Applications**. Tu. Th. S. 9
(Six lectures, beginning 26 Feb.)
Chemical Laboratory

Practical work: Two two-hour periods each week, one to be taken on M. 2–4, Tu. 11–1, W. 10–12 or W. 2–4; and the other on Th. 11–1, F. 10–12, F. 2–4 or M. 10–12, starting Thursday, 7 October at 11 a.m.

Students should register for practical work at the Laboratory 201, Department of Materials Science and Metallurgy between 9.30 and 12.30 or 2.30 and 4.30 on Tuesday, 5 October or Wednesday 6 October.

Note: Students are advised to leave one or other of the periods Tu. 11–1 and Th. 11–1 available for the Computing Course for Physical Scientists (see above).

MATHEMATICS*
All lectures given for this course will start at 9 a.m. promptly

Course A
DR F. H. HAYNES
Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 24 Feb.)
Physiological Laboratory
Examples Class. W. 4.30–6 (Two classes, 9, 23 Feb.)

DR F. H. KING
Computing Techniques and Applications**. Tu. Th. S. 9
(Six lectures, beginning 26 Feb.)
Chemical Laboratory

Course B
DR A. T. WINTER
Mathematics I. Tu. Th. S. 9 Chemical Laboratory
Examples class. W. 4.30–6 (Four classes, 20 Oct., 3, 17 Nov., 1 Dec.) Arts School, Room A

Mathematics II. Tu. Th. S. 9 (Sixteen lectures, ending 24 Feb.) Chemical Laboratory
Examples Class. W. 4.30–6 (Two classes, 16 Feb., 1 Mar.) Arts School, Room A

DR F. H. KING
Computing Techniques and Applications**. Tu. Th. S. 9
(Six lectures, beginning 26 Feb.)
Chemical Laboratory

* It is strongly recommended that everyone attending this course should attend at least the first lecture of the Computing Course for Physical Scientists given in the Michaelmas Term (see p. 162).

** Associated with this course there will be an assessed exercise which will be taken into account by the Examiners. The assessments will take place in the afternoons of 8, 9 and 10 May 2000 in the Foyer of the Babbage Lecture Theatre. Further details will be issued during the course.
PHYSICS

All lectures are on M. W. F. at 9

Course A is given in the Cockcroft Lecture Theatre, New Museums Site.

Course B is given in the Chemical Laboratory, Lensfield Road.

Laboratory Work, course P, takes place at the Cavendish Laboratory (West Cambridge).

The Year Group Co-ordinator is Dr G. A. C. Jones E-mail: IA-physics@phy.cam.ac.uk

Courses A and B are alternatives which cover the same syllabus. Those intending to continue with physics in later years can attend either course without disadvantage. Course A is designed for students who took single-subject mathematics at A-level. Students are recommended to attend course PC ‘Computing for Physical Scientists’ unless they are already familiar with spreadsheets and computer-aided algebra.

All students must attend an introductory talk and register for laboratory course P at 11.30 on Wednesday 6 October at the Cavendish Laboratory. Laboratory work is continuously assessed. The Laboratory may be approached by the Madingley Road, or via the Coton cycle and footpath. For cyclists and pedestrians the latter is strongly recommended.

Course A
PROF. M. S. LONGAIR
Foundations of Classical and Statistical Physics

Course B
DR J. R. WALDRAM
Foundations of Classical and Statistical Physics

Course P
DR T. O. WHITE AND OTHERS
Experimental Physics. M. or Tu. or Th. or F. 2–6.
Students attend one afternoon every fortnight

Course PC
Computing for Physical Scientists (see p. 162).

PHYSIOLOGY

Course Organiser: Dr H. P. C. Robinson E-mail: hpcr@cus.cam.ac.uk

Lectures. Tu. Th. S. 12 Anatomy Lecture Theatre
PROF. R. C. THOMAS
Introduction to Physiology (One lecture, 7 Oct.)
PHYSIOLOGY OF NERVE CELLS (Seven lectures, 9–23 Oct.)
DR H. P. C. ROBINSON
PHYSIOLOGY OF MUSCLE (Six lectures, 26 Oct.–6 Nov.)
DR C. J. SCHWINGEN AND DR D. A. GIUSSANI
CARdiovascular SYSTEM AND AUTonomic NERVOUS SYSTEM (Ten lectures, 9–30 Nov.)

Practical Work
Experimental physiology. W. or F. 2–4 (5) The first two weeks. Experimental classes will last for three hours Histology. W. or F. 11–1 (and W. 2–4 for those also reading Materials and Mineral Sciences)

Lectures. Tu. Th. S. 12 Anatomy Lecture Theatre
DR M. J. MASON
Breathing and blood gases (Eight lectures, 20 Jan.–5 Feb.)
DR S. O. SAGE
RENAL PHYSIOLOGY AND BODY FLUID HOMEOSTASIS (Ten lectures, 8–29 Feb.)
DR R. L. TAPP
DIGESTION (Six lectures, 2–14 Mar.)

Practical Work
The same continued

Lectures. Tu. Th. 12 Anatomy Lecture Theatre
DR R. I. WOODS
Temperature regulation and the control of body weight (Three lectures, 27 Apr.–4 May)
DR R. J. BARNES
INTEGRATED PHYSIOLOGICAL RESPONSES TO ENVIRONMENTAL CHALLENGES (Four lectures, 9–18 May)

Practical Work
The same continued
# QUANTITATIVE BIOLOGY

Lectures will be held in the Large Lecture Theatre, Department of Plant Sciences, Computer practicals in the Old Music School, Examples classes in the Arts School, Room B.

Course Organiser: Dr C. A. Gilligan E-mail: cag1@cam.ac.uk

<table>
<thead>
<tr>
<th>MICHAELMAS 1999</th>
<th>LENT 2000</th>
<th>EASTER 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. C. A. Gilligan</td>
<td>Introductions to Quantitative Biology (Three lectures)</td>
<td>Dr. R. A. Johnstone</td>
</tr>
<tr>
<td>Dr. J. A. Barrett and Dr. W. Amos</td>
<td>Growth and decline of populations (Twelve lectures)</td>
<td>Dr. R. T. Grenfell</td>
</tr>
<tr>
<td>MRS. E. Aldworth</td>
<td>Comparison of populations (Nine lectures)</td>
<td>MRS. E. Aldworth</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous statistical methods (Four lectures)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples classes and Computer practicals</th>
<th>Dr. C. A. Gilligan, Dr. J. A. Barrett and others</th>
<th>Examples classes and Computer practicals</th>
<th>Dr. J. J. Trapp, Dr. R. T. Grenfell and MRS. E. Aldworth</th>
<th>Examples classes and Computer practicals</th>
<th>Dr. R. A. Johnstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tu. Th. S. 9</td>
<td>Th. 2–3.30 or 3.30–5</td>
<td>Th. 2–3.30 or 3.30–5</td>
<td>Th. 2–3.30 or 3.30–5</td>
<td>Th. 2–3.30 or 3.30–5</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Quantitative Biology is intended for those students who have studied Mathematics at ‘A’ level. It is to be noted that Quantitative Biology does not provide a qualification for offering Mathematics with only one other subject on Part IB of the Natural Sciences Tripos.
### ADVANCED PHYSICS

*Lectures are given in the Cockroft Lecture Theatre, New Museums Site, unless otherwise stated.*

**Laboratory Work, course R**, takes place at the Cavendish Laboratory (West Cambridge).

The Year Group Co-ordinator Dr S. F. Gull E-mail: IB-advanced-physics@phy.cam.ac.uk

Of the courses listed below, F and G are not examinable in Part IB.

Although others may attend, course F is mainly for those expecting to proceed to Part II Experimental and Theoretical Physics and taking Mathematics (p. 170) in addition to Advanced Physics. An understanding of the content of this course will be assumed in discussion of the more theoretical topics in Parts II and III.

Course G is intended for students who are not taking Mathematics. All students must attend an introductory talk and register for laboratory course R at 2.30 on Wednesday 6 October at the Cavendish Laboratory.

Classes are open at the hours listed below. Students are expected to attend for a period of not less than six hours each week. Those who are offering two other experimental sciences besides Advanced Physics may experience some difficulty in meeting this requirement and, if so, should consult Dr R. D. E. Saunders at the Cavendish Laboratory; special arrangements will be made in such cases.

Laboratory work is continuously assessed.

**Course D**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. D. J. C. Mackay</td>
<td>Dynamics</td>
<td>Tu. S. 9</td>
</tr>
<tr>
<td>Dr. R. D. E. Saunders</td>
<td>Experimental Methods</td>
<td>Th. 9</td>
</tr>
<tr>
<td>Dr. J. M. Riley</td>
<td>Waves</td>
<td>M. W. F. 12 (first twelve lectures)</td>
</tr>
<tr>
<td>Dr. S. F. Gull</td>
<td>Electromagnetism</td>
<td>M. W. F. 12 (last twelve lectures)</td>
</tr>
</tbody>
</table>

**Course F**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. P. B. Littlewood and Others</td>
<td>Examples Class in Mathematical Physics</td>
<td>W. 2.15–4.15 (Two classes, 17 Nov., 1 Dec.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Room A, Arts School, Bene’t Street</td>
</tr>
<tr>
<td></td>
<td>This class interleaves with the Mathematics examples class</td>
<td></td>
</tr>
</tbody>
</table>

**Course G**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. D. A. Green</td>
<td>Mathematical Concepts in Physics</td>
<td>M. W. F. 11 (first sixteen lectures)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Room A, Arts School, Bene’t Street</td>
</tr>
</tbody>
</table>

**Course R**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. R. D. E. Saunders and Others</td>
<td>Systems and Measurement</td>
<td>Tu. or Th. 10–6 or F. and M. 2–6</td>
</tr>
</tbody>
</table>

**ANIMAL BIOLOGY**

Course Organiser: Dr B. J. McCabe E-mail: b.j.mccabe@zoo.cam.ac.uk

*Lectures will take place at the Department of Zoology unless otherwise stated, M. W. F. 11*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Lecturer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour and Ecology</td>
<td></td>
<td>Prof. N. B. Davies and Prof. P. P. G. Bateson</td>
<td>(Twelve lectures, beginning 8 Oct.)</td>
</tr>
<tr>
<td>Brains and Behaviour</td>
<td></td>
<td>Dr. S. B. Laughlin and Prof. M. Burrows</td>
<td>(Twelve lectures, beginning 5 Nov.)</td>
</tr>
<tr>
<td>Adaptation and Evolution</td>
<td></td>
<td>Dr. S. H. P. Maddrell and Dr. W. A. Foster</td>
<td>Insects (Twelve lectures, beginning 21 Jan.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr. J. A. Clack and Dr. A. E. Friday</td>
<td>Vertebrates (Twelve lectures, beginning 18 Feb.)</td>
</tr>
<tr>
<td>Environmental Physiology</td>
<td></td>
<td>Prof. H. P. Madorell and Dr. R. Boutilier</td>
<td>(Twelve lectures, beginning W. 26 Apr.)</td>
</tr>
</tbody>
</table>

Note the early start of this course

Students will be expected to do four hours practical work per week between 12 and 5 on Wednesdays or 11 and 5 on Thursdays.

1 Candidates who intend to read Part II Zoology and who have not taken Biology of Organisms are recommended to attend one of the Easter Vacation Field Courses. Details are posted in the Laboratory.
**BIOCHEMISTRY AND MOLECULAR BIOLOGY**
Course Co-ordinator: Dr T. R. Hesketh E-mail: trh12@mole.bio.cam.ac.uk

Lectures are given in the lecture theatre of the Department of Biochemistry, Old Addenbrooke’s Site building, 80 Tennis Court Road. M. W. F. 10; Practical lectures at the Department of Biochemistry, Downing Site building.

Genes and proteins: macromolecules in action  
DR C. J. HOWE  
Gene cloning and manipulation. Genetic engineering  
(Five lectures, 8–18 Oct.)  
PROF. J. O. THOMAS  
Control of gene expression: DNA structure and DNA-protein interactions (Five lectures, 20–29 Oct.)  
DR C. W. J. SMITH  
Control of gene expression: transcription, RNA processing and translation (Five lectures, 1–10 Nov.)  
PROF. SIR TOM BLUNDELL AND PROF. R. N. PERHAM  
Proteins, enzymes and protein engineering (Ten lectures, 12 Nov.–3 Dec.)

Energy transduction, cell signalling and cell proliferation  
DR G. C. BROWN  
Energy transduction in bacteria, mitochondria and chloroplasts (Six lectures, 19–31 Jan.)  
DR K. M. BRINDLE  
Control of metabolism (Six lectures, 2–14 Feb.)  
DR R. W. FARDNALE  
Transmembrane signalling: molecules and mechanisms (Six lectures, 16–28 Feb.)  
DR D. M. CARRINGTON  
Control of eukaryotic cell growth (Four lectures, 1–8 Mar.)  
DR T. R. HESKETH  
Oncogenes, tumour suppressor genes, and cancer (Four lectures, 10–17 Mar.)

Biochemistry of prokaryotes  
PROF. G. P. C. SALMOND AND COLLEAGUES  
Biochemistry of prokaryotes (Nine lectures, 26 Apr.–15 May)

**CHEMISTRY A**
Course Co-ordinator: Dr J. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in Lecture Room 2, Department of Chemistry, Lensfield Road, on Tu. Th. S. 12 unless indicated

PROF. N. C. HANDY  
Quantum Mechanics (Twelve lectures)  
DR R. D. AMOS AND DR A. BRIDGEMAN  
Symmetry and Bonding (Twelve lectures)  
DR R. D. AMOS  
Mathematics for Chemists (first three weeks). M. F. 9  
(non-examinable course for those not attending IB Mathematics for Natural Sciences)

Practical Chemistry. M. Tu. W. Th. F. 1.45–5  Students must register in the Department of Chemistry, Lensfield Road, between 9 and 1 or 2 and 4 on Tuesday, 5 October, when they will be assigned attendance in the afternoon of a particular day of the week for Chemistry A. All students must attend an introductory talk concerning the Chemistry A practical course on Wednesday, 6 October at 10.45 a.m. in Lecture Theatre 1

DR I. H. KEELER  
Molecular Energy Levels and Thermodynamics (Twelve lectures)  
PROF. D. A. KING  
Solids and Surfaces (Twelve lectures)

Practical Chemistry. Attendance days as for Michaelmas Term

**CHEMISTRY B**
Course Co-ordinator: Dr J. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures given in Lecture Room 2, Department of Chemistry, Lensfield Road, on Tu. Th. S. 9 unless indicated

DR S. G. WARREN  
Key Organic Reactions (Twelve lectures)  
PROF. I. FLEMMING AND DR J. M. RAWSON  
Molecules-Structures and Spectra (Twelve lectures)

Practical Chemistry. M. Tu. W. Th. F. 1.45–6  Students must register in the Department of Chemistry, Lensfield Road, between 9 and 1 or 2 and 4 on Tuesday, 5 October, when they will be assigned attendance in the afternoon of a particular day of the week for Chemistry B.

DR R. PATerson  
Shape and Organic Reactivity (Twelve lectures)  
PROF. B. F. G. JOHNSON AND DR R. SNAITH  
Chemistry of the Metallic Elements (Twelve lectures)

Practical Chemistry. Attendance days as for Michaelmas Term

DR W. JONES AND DR I. P. ATTFIELD  
Chemistry beyond Molecules (Twelve lectures)
ECOLOGY
Course Co-ordinator: Dr E. V. J. Tanner E-mail: evt1@mole.bio.cam.ac.uk

All lectures will take place in the Department of Zoology, on M. W. F. 9

DR E. V. J. TANNER
Introduction to the course (One lecture)

DR R. S. K. BARNES
The marine ecosystem (Six lectures)

DR L. E. FRIDAY
Freshwater communities (Five lectures)

DR E. V. J. TANNER
World climates and vegetation; climate change (Four lectures)

DR P. J. GRUBB
European vegetation and soils; pre-industrial human impacts (Four lectures)

DR M. A. TESTER
Impacts of rising CO2 and other pollutants (Four lectures)

DR A. BALMFORD
Humans and ecology (Six lectures)

DR E. V. J. TANNER
Biodiversity (Six lectures) (The above lectures will start W. 26 Apr.) Note the early start of this course

DR N. B. DAVIES
Predators and prey (Six lectures)

PROF. T. H. CLUTTON-BROCK
Evolution of social behaviour (Six lectures)

DR R. JOHNSTONE
Ecological genetics (Six lectures)

DR B. GRENFELL
Ecological dynamics (Six lectures)

DR N. B. DAVIES
Pedators and prey (Six lectures)

PROF. T. H. CLUTTON-BROCK
Evolution of social behaviour (Six lectures)

DR R. JOHNSTONE
Ecological genetics (Six lectures)

DR B. GRENFELL
Ecological dynamics (Six lectures)

DR A. BALMFORD
Humans and ecology (Six lectures)

Experimental Psychology
Course Organiser: Dr J. Russell E-mail: j.russell@psychol.cam.ac.uk

Lectures will be held in Lecture Theatre 3, Department of Physiology, Practical work in the Psychological Laboratory unless otherwise stated

PROF. B. C. J. MOORE, DR M. ELMER, PROF. J. D. MOLLON AND DR H. E. MOSS
Human Experimental Psychology: Perception; Memory; Action; Psycholinguistics (Twenty-four lectures, 7 Oct.–30 Nov.). Tu. Th. S. 11

DR A. DICKINSON
Learning and memory (Nine lectures, 20 Jan.–8 Feb.). Tu. Th. S. 11

DR R. A. MCCARTHY
Neuropsychology (Three lectures, 10, 12, 15 Feb.). Tu. Th. S. 11

DR K. C. PLAISTED
Developmental Psychology (Six lectures, 17–29 Feb.). Tu. Th. S. 11

PROF. N. J. MACKINTOSH
Intelligence (Three lectures, 2, 4, 7 Mar.). Tu. Th. S. 11

DR K. C. PLAISTED
Reasoning (Three lectures, 9, 11, 14 Mar.). Tu. Th. S. 11

Practical Work. The same continued

Fluid Mechanics
Lectures will be held in the Department of Chemical Engineering, Pembroke Street (A detailed timetable will be displayed in the Department)

Teaching Co-ordinator: Dr D. M. Scott E-mail: Tripos@cheng.cam.ac.uk

Fluid Mechanics
DR D. M. SCOTT
(Twenty-four lectures) M. W. F. 11

Examples Classes
M. 9–11 or W. 9–11

Practical Work
M. 9–11 or W. 9–11 or M. 2–4

Transport Processes
DR A. N. RAYHURST
(Twenty lectures) M. W. F. 11

Continuous Contacting Processes
DR R. B. THORPE
(Four lectures) M. W. F. 11

Examples Classes
M. 9–11 or W. 9–11

Practical Work
M. 9–11 or W. 9–11 or M. 2–4

Continuous Contacting Processes (continued)
DR R. B. THORPE
(Four lectures) M. W. F. 11

Reactors
DR H. A. CHASE
(Eight lectures) M. W. F. 11

Examples Classes
M. 9–11 or W. 9–11

Students should register for practical work on Tuesday 5 October, between 2 and 4 p.m. at the Department of Chemical Engineering.
GEOLOGICAL SCIENCES A

Course Co-ordinator: Dr J. A. D. Dickson Email: jadd1@esc.cam.ac.uk

All lectures are in the Tilley Lecture Room, Department of Earth Sciences on M. W. F. 10

DR N. H. WOODCOCK
- Maps and Structures (Ten lectures)
- Tectonics and Seismology (Eight lectures)
- Evolution of the Hydrosphere (Six lectures)

DR J. A. DICKSON
- Biogenic and Chemical Sediments (Eight lectures)
- Classic, Sedimentology (Eight lectures)
- Palaeontology (Eight lectures)
- Geological Sciences Field Class.
  (20 Mar. – 1 Apr.)

DR D. M. PYLE
- Magmatic Settings (Six lectures)
- Introduction to metamorphism (Four lectures)
- Metamorphism and Metamorphic Case Studies (Six lectures)

DR T. J. B. HOLLAND
- Active tectonics and metamorphism (Eight lectures)
- Geological Sciences Field Class (20 Mar. – 1 Apr.)

DR D. B. NORMAN
- Vertebrate palaeontology (Five lectures)

DR N. J. WHITE
- Sedimentary Basins Reviewed (Five lectures)

DR A. H. SHEN
- Igneous Mineralogy (Twelve lectures)

DR A. SCHULTZ
- Origin of the Earth and the Elements (Six lectures)

DR J. A. DICKSON
- Biogenic and Chemical Sediments (Eight lectures)

DR J. N. BUTTERFIELD
- Palaeontology (Eight lectures)

DR D. M. PYLE
- Introductory Igneous Petrology (Six lectures)

DR M. B. HOLNESS
- Introduction to metamorphism (Four lectures)

DR J. SECORD, DR J. FORRESTER AND DR N. HOPWOOD
- History of Science and Medicine. M. 5 (weeks 1–8); W. 5 (weeks 1–4)

DR K. RIDDERBOS
- Ethics in Science. F. 5 (weeks 1–4)

DR M. KUSCH
- Sociology of Scientific Knowledge. M. 5 (weeks 1–4)

Practical Work. There are three practicals per week of about 1½ hours, to be taken between successive lectures. Students should go to the Department of Earth Sciences on Wednesday, 6 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choice of times from those available, which are M. W. F. 11–1, 2–4; Tu. Th. S. 10–1.

GEOLOGICAL SCIENCES B

Course Co-ordinator: Dr D. M. Pyle Email: dmp11@esc.cam.ac.uk

All lectures are held in the Tilley Lecture Room, Department of Earth Sciences on Tu. Th. S. 9

DR A. H. SHEN
- Igneous Mineralogy (Twelve lectures)

DR A. SCHULTZ
- Origin of the Earth and the Elements (Six lectures)

DR D. M. PYLE
- Introductory Igneous Petrology (Six lectures)

DR D. M. PYLE
- Magmatic Settings (Six lectures)

DR M. B. HOLNESS
- Metamorphism Case Studies (Five lectures)

DR S. GIBSON
- Igneous case studies (Five lectures)

DR M. B. HOLNESS
- Metamorphism Case Studies (Five lectures)

DR M. J. BICKLE
- Active tectonics and metamorphism (Eight lectures)

DR M. KUSCH
- Sociology of Scientific Knowledge. M. 5 (weeks 1–4)

Practical Work. There are three practicals per week of about 1½ hours, to be taken between successive lectures. Students should go to the Department of Earth Sciences on Wednesday, 6 October, between 9.30 and 12.30, or 2.30 and 4.30, to register their choice of times from those available, which are M. W. F. 11–1, Tu. Th. S. 10–12, M. Tu. Th. 2–4.

HISTORY AND PHILOSOPHY OF SCIENCE

All lectures will be delivered in the Rayleigh Lecture Theatre, Free School Lane

DR W. CLARK
- Natural Philosophy. M. 5 (weeks 1–8); W. 5 (weeks 1–4)

PROF. P. LIPTON
- Philosophy of Science. (weeks 5–8)

DR I. SECORD, DR J. FORRESTER AND DR N. HOPWOOD
- History of Science and Medicine. M. 5 (weeks 1–8); W. 5 (weeks 1–4)

DR K. RIDDERBOS
- Philosophy of Physics. W. 5 (weeks 5–8)

DR M. KUSCH
- Sociology of Scientific Knowledge. M. 5 (weeks 1–4)

DR R. JENNINGS
- Ethics in Science. F. 5 (weeks 1–4)

DR N. HOPWOOD AND DR I. SECORD
- History of Science and Medicine. W. 5 (weeks 1–4)

continued >
NATURAL SCIENCES TRIPOS, PART I B (continued)

MATERIALS SCIENCE AND METALLURGY
Course Co-ordinator: Dr G. T. Burstein E-mail: Part IB@msm.cam.ac.uk

DR H. K. D. H. BHADESHIA
Metals and Alloys (Twelve lectures)
DR G. T. BURSTEIN
Environmental Behaviour of Materials (Twelve lectures)

DR I. M. HUTCHINGS
Polymers (Nine lectures)
DR R. V. KUMAR
Ceramics and Ionic Solids (Six lectures)
DR P. D. BRISTOWE
Electrical and Magnetic Properties of Materials (Nine lectures)

Practical Work
Either Tu. 2–4 or Th. 2–4 or F. 9–11 and one further hour each week between 9–12.45 or 2–4 on any weekday

DR I. M. HUTCHINGS
The same continued
DR R. E. WALLACH
The same continued

Students should register for practical classes in the Department of Materials Science and Metallurgy between 9.30 a.m. and 12.30 p.m. or 2.30 and 4.30 p.m. on Tuesday, 5 October or Wednesday 6 October.

Industrial Visits
Details to be announced

MATHMATICS

DR M. R. E. PROCTOR
Mathematical Methods I. M. W. F. 11
Chemical Laboratory

Examples Class*. W. 2.15–4.15 (Two classes, 10, 24 Nov.) Arts School Room A

DR R. E. HUNT
Mathematical Methods II. M. W. F. 11
Chemical Laboratory

Examples Class. W. 2.15–4.15 (8, 15 Mar.)
Arts School Room A

DR H. OSBORN
Mathematical Methods III. M. W. F. 11
(Ten lectures) Chemical Laboratory

Examples Class. W. 2.15–4.15
(Two classes, 26 Apr., 11 May)
Arts School Room A

* This Examples Class interleaves with the Examples Class in Mathematical Physics, Advanced Course F. (p. 166).
Optional weekly sessions of practical work with a computer will be available at times to be arranged.

MINERAL SCIENCES
Course Co-ordinator: Dr I. Farman E-mail: i.farnan@esc.cam.ac.uk

Lectures will be given in the New Seminar Room, Department of Earth Sciences, on M. W. F. 9

DR M. WELCH
Degrees of Order in Solids (Fourteen lectures)
DR I. FARNAN
Transport Properties of Minerals (Ten lectures)

DR M. A. CARPENTER
Symmetry and Physical Properties (Ten lectures)
DR S. A. T. REDFERN
Ferroelectric Phase Transitions in oxides and Ceramics (Six lectures)
DR M. T. DOVE
Stability of Crystal Structures (Eight lectures)

DR A. SHEN, DR I. FARNAN, DR M. T. DOVE,
DR S. A. T. REDFERN AND
DR M. A. CARPENTER
Minerals and the Natural Environment (Nine lectures)

Practical Work. M. F. 10–12 or 2–4

Students should register for practical work in the Department of Earth Sciences (South Entrance) between 9.30 a.m. and 1 p.m. or between 2.30 and 5 p.m. on Wednesday, 7 October.
MOLECULAR CELL BIOLOGY
Course Co-ordinator: Dr D. MacDonald E-mail: d.macdonald@gen.cam.ac.uk

Lectures will be held in the Biffen Lecture Theatre, Department of Genetics, Tu. Th. S. 10

Practical work will take place in the Department of Zoology. Students will be expected to do four hours practical work per week between 11 a.m. and 1 p.m., 2 and 5 p.m. on Tuesday or Fridays.

PATHOLOGY
Course Organiser: Dr B. Kingston E-mail: ibk@mole.bio.cam.ac.uk

continued >
**PATHOLOGY (continued)**

<table>
<thead>
<tr>
<th>Course Organiser</th>
<th>Lectures</th>
<th>Practical Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr C. W. Taylor</td>
<td>10–12 or Tu. or Th. 2–4</td>
<td>Department of Pathology</td>
</tr>
<tr>
<td>Dr R. D. Murrell-Lagnado</td>
<td>2–4</td>
<td>Tu. 10–12 and Th. 2–4 or Tu. 2–4 and Th. 10–12 or W. and F. 10–12 or 2–4</td>
</tr>
<tr>
<td>Dr P. J. Richardson</td>
<td>10 May</td>
<td>Tu. 10–12 and Th. 2–4 or Tu. 2–4 and Th. 10–12 or W. and F. 10–12 or 2–4</td>
</tr>
</tbody>
</table>

**PHARMACOLOGY**

Course organiser: Dr T. P. D. Fan E-mail: tpf1000@cus.cam.ac.uk

<table>
<thead>
<tr>
<th>Course Organiser</th>
<th>Lectures</th>
<th>Practical Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. A. H. Wyllie</td>
<td>8–18 Oct.</td>
<td>Receptor mechanisms.</td>
</tr>
<tr>
<td>Prof. R. F. Irvine</td>
<td>20 Oct.–1 Nov.</td>
<td>Local and intracellular messengers.</td>
</tr>
<tr>
<td>Dr C. W. Taylor</td>
<td>3–10 Nov.</td>
<td>Ligand-gated ion channels.</td>
</tr>
<tr>
<td>Dr P. M. Dean</td>
<td>31 Jan.–2 Feb.</td>
<td>Drug design.</td>
</tr>
<tr>
<td>Dr M. J. Waring</td>
<td>4–18 Feb.</td>
<td>Chemotherapy.</td>
</tr>
<tr>
<td>Dr R. M. Henderson</td>
<td>21 Feb.–15 Mar.</td>
<td>Cardiovascular and renal pharmacology.</td>
</tr>
</tbody>
</table>

Practical work (The same continued)

Note that lectures in the Lent and Easter term begin on Wednesday rather than Friday. This change is to allow more time between the end of the course and the examinations.

**PHYSICS**

*Lectures, course C, are given in the Maxwell Lecture Theatre, New Museums Site, M. W. F. 12. Laboratory Work, course Q, takes place at the Cavendish Laboratory (West Cambridge).*

The Year Group Co-ordinator: Dr A. L. Bleloch E-mail: IB-single-physics@phy.cam.ac.uk

All students must attend an introductory talk and register for laboratory course Q at 2.30 on Wednesday 6 October at the Cavendish Laboratory.

Laboratory work is continuously assessed.

<table>
<thead>
<tr>
<th>Course C</th>
<th>Lectures</th>
<th>Practical Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr A. L. Bleloch</td>
<td>8–18 Oct.</td>
<td>Waves and Imaging Instruments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Q</th>
<th>Lectures</th>
<th>Practical Work</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Prof. Ahmed</th>
<th>Lectures</th>
<th>Practical Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr D. R. Ferguson</td>
<td>12, 15 May</td>
<td>Toxicology.</td>
</tr>
</tbody>
</table>

Note that lectures in the Lent and Easter term begin on Wednesday rather than Friday. This change is to allow more time between the end of the course and the examinations.
<table>
<thead>
<tr>
<th>Lectures</th>
<th>M. W. F. 9 Main Physiology Lecture Theatre (except where otherwise stated)</th>
<th>Lectures</th>
<th>M. W. F. 9 Main Physiology Lecture Theatre</th>
<th>Lectures</th>
<th>M. W. F. 9 Main Physiology Lecture Theatre</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR A. L. R. FINDLAY</td>
<td>Endocrinology. (Ten lectures, 8–29 Oct.)</td>
<td>DR H. R. MATTHEWS</td>
<td>Synapses and sensory receptors. (Four lectures, 21–28 Jan.)</td>
<td>DR H. R. MATTHEWS</td>
<td>Taste and smell. (One lecture, 28 Apr.)</td>
</tr>
<tr>
<td>Babbage Lecture Theatre</td>
<td>Neurophysiology of vision. (Six lectures, 21 Jan.–1 Feb.)</td>
<td>(Three lectures, 1–5 May)</td>
<td>Higher functions of the nervous system.</td>
<td>(Three lectures, 1–5 May)</td>
<td>Exploitation of plants. (Three lectures, 13–18 May)</td>
</tr>
<tr>
<td>DR W. H. COLLEDGE</td>
<td>Reproduction. (Eight lectures, 1–17 Nov.)</td>
<td>DR D. J. TOLHURST</td>
<td>Somatic sensation and pain. (Four lectures, 14–21 Feb.)</td>
<td>DR J. H. ROGERS</td>
<td>Developmental neurobiology. (Four lectures, 8–15 May)</td>
</tr>
<tr>
<td>DR J. C. D. HICKSON</td>
<td>Fetal, neonatal and maternal physiology. (Six lectures, 19 Nov.–1 Dec.)</td>
<td>DR I. M. WINTER</td>
<td>Control of movement and posture. (Six lectures, 23 Feb.–6 Mar.)</td>
<td>DR I. M. WINTER</td>
<td>Hearing. (Four lectures, 8–15 Mar.)</td>
</tr>
</tbody>
</table>

**Practical Work**

| Tu. Th. 2–4 or Th. 10–12, 2–4 | Tu. Th. 2–4 | Tu. Th. 2–4 |

---

**PLANT SCIENCES**

Course co-ordinator: Dr A. G. Smith E-mail: as25@mole.bio.cam.ac.uk

All lectures will take place in the Large Lecture Theatre of the Department of Plant Sciences, on Tu. Th. S. 11

<table>
<thead>
<tr>
<th>DR M. A. TESTER</th>
<th>DR J. M. Davies, DR K. Johnstone and DR J. P. CARR</th>
<th>DR J. BARRETT AND DR D. BRIGGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity of plants. (Four lectures, beginning 7 Oct.)</td>
<td>Plants and temperature. (Four lectures, 16–25 Jan.)</td>
<td>Plant variation, evolution and conservation. (Eight lectures, 25 Apr.–11 May)</td>
</tr>
<tr>
<td>DR J. M. HIBBERD AND DR A. G. SMITH</td>
<td>Please note the early start of this course</td>
<td>Please note the early start of this course</td>
</tr>
<tr>
<td>Photosynthesis and management of reserves. (Ten lectures, 16 Oct.–6 Nov.)</td>
<td>DR J. P. CARR</td>
<td>PROF. R. A. LEIGH</td>
</tr>
<tr>
<td>DR E. V. J. TANNER AND PROF. R. A. LEIGH</td>
<td>Plants and micro-organisms. (Twelve lectures, 27 Jan.–22 Feb.)</td>
<td>Exploitation of plants. (Three lectures, 13–18 May)</td>
</tr>
<tr>
<td>Water and nutrients. (Ten lectures, 9–30 Nov.)</td>
<td>DR A. G. SMITH</td>
<td>(Eight lectures, 25 Apr.–11 May)</td>
</tr>
<tr>
<td></td>
<td>Plants and animals. (Three lectures, 24–29 Feb.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DR B. J. GLOVER</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plant development. (Six lectures, 2–14 Mar.)</td>
<td></td>
</tr>
</tbody>
</table>

Students will be expected to do four hours’ practical work per week, between Th. 12–5 or F. 11–5.
A candidate may offer
either
   (a) Advanced Physics and one other subject from Part I excluding Geological Sciences A of the Natural Sciences Tripos which he has not previously offered;
or
   (b) one subject from Part I of the Natural Sciences Tripos which he has not previously offered and one Special Subject;
or
   (c) two Special Subjects.

Details of the permissible combination of subjects, within the scheme set out above, and also of restrictions on the offering of certain subjects may be found in Regulation 26 for the Natural Sciences Tripos.

The time-tables of teaching for the Special Subjects are set out below. For the times of teaching for subjects in Part I please see the relevant entries on the other pages.

SPECIAL SUBJECT CHEMISTRY
Course Co-ordinator: Dr J. H. Keeler E-mail: James.Keeler@ch.cam.ac.uk
The course consists of lectures and practical work selected from the courses available for Part II Option A Chemistry (see p. 177). Further details can be obtained from Dr J. H. Keeler in the Department of Chemistry.

SPECIAL SUBJECT HUMAN IMPACT ON THE ENVIRONMENT
The course consists of lectures and candidates will also be required to submit a 5,000 word essay on a subject proposed by the candidates and approved by the Head of Department or chosen from a list of approved subjects. The essay to be handed in by the second week of the Easter Term.
Course Organiser: Dr J. R. Flowerdew E-mail: j.r.flowerdew@zoo.cam.ac.uk

SPECIAL SUBJECT PATHOLOGY
This course consists of the lectures in Cellular Pathology available in Part II Pathology (see p. 184). Candidates will also be required to attend classroom work on Monday afternoon between 2 p.m. and 5 p.m. It is important that all candidates attend the Introduction Lecture to Part II Pathology on 6 October at 5 p.m. in the Department of Pathology.

SPECIAL SUBJECT PHYSICS
Year Group Co-ordinator: Dr S. R. Julian E-mail: II-physics@phy.cam.ac.uk
This course consists of about half the lectures and classwork of a candidate offering Part II Experimental and Theoretical Physics (see p. 178). Two options, A and B, are available. All candidates should take 32 hours of lectures from course H in the Michaelmas Term and experiment E1. Those offering option A should take 32 hours of lectures from course H in the Lent Term and one of the following units of further work: the Computational Physics course and assessment, pre-approved Vacation Work, experiment E2, experiment E3, course TP1, course TP2, a Literature Review. Neither of the courses TP1 and TP2 may be taken unless Mathematics was offered in Part I of the Natural Sciences Tripos. Those offering option B take 16 hours of lectures from course H in the Lent Term together with the lectures and classwork of course K. Guidance on suitable combinations of lecture courses will be provided by the Department. A prior knowledge of Physics equivalent to the material covered in Advanced Physics in Part I will be assumed.
ANATOMY OPTION A: RESEARCH IN DEVELOPMENTAL BIOLOGY AND NEUROSCIENCE

Course units: Each unit usually comprises Th. F. 9–11.30 and W. 9–12

All teaching will be in the Anatomy Part II Lecture Room unless otherwise stated

Course Organiser: Dr A. C. Roberts E-mail: acr4@cus.cam.ac.uk

ANATOMY OPTION B: DISEASE, SOCIETY AND SEXUALITY

Lectures will start at 4.30, unless otherwise stated

All teaching will be in the Anatomy Part II Lecture Room unless otherwise stated

Course Organiser: Dr G. J. Burton E-mail: gjb2@cam.ac.uk

HIV and AIDS

MRS P. HENDERSON
Introduction. (One lecture, 6 Oct.)

DR L. WILLOCKS AND DR D. DE ANGELIS
Epidemiology of HIV. (Three lectures, 12, 13, 15 Oct.)

Dr G. J. BURTON
Materno-fetal Transmission. (One lecture, 18 Oct.)

DR R. A. H. WHITE
Molecular Biology of HIV. (Three lectures, 19, 20, 22 Oct.)

Immunology of HIV. (Three lectures, 25, 26, 27 Oct.)

DR C. CARNE
Clinical Aspects of HIV. F. 2 (Two lectures, 29 Oct.)

Neurobiology of Emotion

DR C. FRASER
Attitudes and Prejudice. (Five lectures, 8, 9, 10, 12, 15 Nov.)

DR A. C. ROBERTS
Neural Basis of Emotions. (Four lectures, 16, 17, 19, 23 Nov.)

Addiction. (Three lectures, 24, 26, 29 Nov.)

DR M. C. MARTINEZ
Biology of Aggression. Th. 3 (Two lectures, 30 Nov.)

DR M. LONDON
Drugs and Alcohol. W. 2 (One lecture, 1 Dec.)

Workshops, Seminars and Journal Clubs

As announced in the Department (Starting 5 Oct.)

Neurobiology of Emotion

DR J. HERBERT
Stress. (Two lectures, 21, 24 Jan.)

Life Events. (Two lectures, 25, 26 Jan.)

Dr N. HUNT
Mood and Depression. (Two lectures, 28, 31 Jan.)

DR J. STEVENSON-HENDE
Relationships. (Three lectures, 1, 2, 4 Feb.)

Sex, Gender and Sexuality

DR A. C. FERGUSON-SMITH

DR J. HERBERT
Sexual Behaviour. (Three lectures, 3, 6, 7, Mar.)

Workshops, Seminars and Journal Clubs

As announced in the Department
ASTROPHYSICS

All lectures will be delivered in the Hoyle Building, Institute of Astronomy

DR C. D. MACKAY
Introductory Astrophysics. M. 12, Tu. Th. 11
DR P. P. EGGLETON
Statistical Physics. M. W. F. 11
DR C. J. CLARKE
Astrophysical Fluid Dynamics. Tu. Th. 10, F. 12
PROF. G. P. EFSTATHIOU
Theory of Relativity. M. W. F. 10

DR J. E. PRINGLE
Stellar Dynamics and Structure of Galaxies. M. W. F. 10
DR P. MADDAU
Physical Cosmology. M. 12, Tu. Th. 11
DR P. C. HEWETT
Topics in Contemporary Astrophysics. Tu. Th. 10, F. 12
DR I. R. PARRY
Structure and Evolution of Stars. M. W. F. 11

BIOCHEMISTRY

Lectures are given in the Department of Biochemistry, Downing Site building

The course starts with an introductory lecture by Prof. Sir Tom. Blundell at 9 a.m. on Monday 4 October.
Core course lectures take place at 5.30 for the first six weeks of the Michaelmas Term, and at 9 a.m. and 10.30 a.m. thereafter.
Detailed time-tables will be posted in the Department of Biochemistry.

Core lectures

DR P. R. N. PERHAM
Aspects of protein structure: genome to proteome. (Five lectures, beginning 4 Oct.)

A. N. OTHER
Enzyme structure and function. (Five lectures, beginning 11 Oct.)

DR C. W. J. SMITH
Mechanisms and control of transcription in eukaryotes. (Five lectures, beginning 18 Oct.)

DR R. J. JACKSON
Protein synthesis and translational control. (Five lectures, beginning 25 Oct.)

PROF. J. O. THOMAS
Protein-DNA interactions and gene expression. (Five lectures, beginning 1 Nov.)

DR D. M. CARRINGTON
DNA recombination in genetic exchange and gene expression. (Five lectures, beginning 8 Nov.)

DR T. R. HESKETH
Receptor tyrosine kinases. (Four lectures, beginning 15 Nov.)

DR J. A. H. MURRAY
Eukaryotic chromosome replication. (Three lectures, beginning 22 Nov.)

PROF. T. L. BLUNDELL
G protein-based signalling. (Four lectures, beginning 22 Nov.)

DR R. W. FARNDALE
Lipids as signal precursors; adhesive and immune receptor signalling. (Four lectures, beginning 24 Nov.)

DR C. J. HOWE
Gene expression in plants. (Four lectures, beginning 29 Nov.)

PROF. G. P. C. SALMOND
Signal transduction in protaryotes. (Four lectures, beginning 30 Nov.)

Core lectures

DR P. DUPRIE
Protein targeting to the endoplasmic reticulum. (Three lectures, beginning 17 Jan.)

DR S. A. GAYTHIR
Genome mapping and identification of disease genes. (Two lectures, beginning 17 Jan.)

DR A. P. JACKSON
Protein sorting. (Six lectures, beginning 20 Jan.)

DR A. A. GRACE
Disease genes: function and manipulation. (Three lectures, beginning 21 Jan.)

DR S. E. JACKSON
Protein folding in vivo. (Three lectures, beginning 26 Jan.)

Option lectures

1. PROF. G. P. C. SALMOND AND OTHERS
Bacterial virulence and antimicrobial chemotherapy. (Fifteen lectures)
Option Organiser: Prof. G. P. C. Salmon

2. DR A. R. C. RAINE AND OTHERS
Proteins, nucleic acids and their interactions. (Fifteen lectures)
Option Organiser: Dr A. R. C. Raine

3. DR M. D. BRAND AND OTHERS
Bioenergetics. (Fifteen lectures)
Option organiser: Dr M. D. Brand

4. DR P. DUPRIE AND OTHERS
Plant molecular biology. (Fifteen lectures)
Option Organiser: Dr P. Dupree

5. DR C. W. J. SMITH AND OTHERS
Control of gene expression in eukaryotes. (Fifteen lectures in part joint with Part II Zoology)
Option Organiser: Prof. R. A. Laskey

6. DR J. P. LUZIO AND OTHERS
Medical biochemistry. (Fifteen lectures)
Option Organiser: Dr J. P. Luzio

7. DR J. BLACKBURN AND OTHERS
Enzyme mechanisms and the evolution of enzyme function. (Fifteen lectures)
Option Organiser: Dr J. Blackburn

8. PROF. J. C. METCALFE AND OTHERS
Cardiovascular molecular and cellular biology. (Fifteen lectures)
Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace
9. DR. T. R. HESKETH AND OTHERS
   Oncogenes, tumour suppressor genes and
carcinogenesis. (Fifteen lectures in part
joint with Option E of Part II Pathology.)
   Option Organisers: Dr T. R. Hesketh and
   Dr N. Affara
10. DR. A. M. TOLKOVSKY AND OTHERS
    Perspectives in molecular neurobiology.
    (Fifteen lectures)
    Option Organiser: Dr A. M. Tolkovsky
11. PROF. C. M. BATE AND OTHERS
    Developmental biology. (Twenty-four
    lectures joint with Part II Genetics, Plant
    Sciences, and Zoology.)
    Option Organiser: Prof. C. M. Bate
12. DR. D. J. ELLAR AND OTHERS
    Biotechnology. (Fifteen lectures)
    Option Organiser: Dr D. J. Ellar
13. DR. D. M. CARRINGTON AND OTHERS
    Regulation of the eukaryotic cell cycle.
    (Fifteen lectures)
    Option Organiser: Dr D. M. Carrington

Data handling classes
W. 3–5 from 9 Feb.

CHEMISTRY
(OPTION A AND OPTION B)

Course Co-ordinator: Dr J. Keeler E-mail: James.Keeler@ch.cam.ac.uk

All lectures will be given in the Department of Chemistry, Lensfield Road

Students must register for the course in the Part I/II Physical Chemistry Practical Laboratory between 9 and 1 or 2 and 4 on Tuesday 5th October. A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Co-ordinator.

All students must attend an introductory talk concerning the practical course at 12 noon on Wednesday 6 October in Lecture Theatre 3.
### Course H
- **Solid State Physics** by Dr. C. G. Smith
  - M. Th. 9
- **Thermal and Statistical Physics** by Dr. S. R. Julian
  - Tu. Th. 10
- **Quantum Mechanics II** by Dr. D. R. Ward
  - W. F. 9
- **Computational Physics** by Dr. P. Alexander
  - M. W. F. 10 (first twelve lectures)
  - Classes weekdays 2–5 (21 Oct.–1 Dec.) Students attend one day per week
- **Relativity and Electrodynamics** by Dr. P. Alexander
  - Tu. 9 (first four lectures); M. W. F. 10 (last twelve lectures)

### Course I
- **Theoretical Physics TP1** by Dr. R. E. Ansorge and Dr. E. Terentjev
  - Tu. Th. 12–1 (Twelve lectures, beginning 12 Oct.); Tu. 2–4 (Four classes 19 Oct., 2, 16, 30 Nov.)

### Course J
- **Theoretical Physics TP2** by Dr. R. E. Ansorge and Dr. R. J. Needs
  - Tu. Th. 12–1 (Twelve lectures, beginning 25 Jan.); Tu. 2–4 (Four classes 1, 15, 29 Feb., 14 Mar.)

### Course K
- **Experiment E1** by Dr. P. F. Scott and Others
  - W. 9.30 (6 Oct.)

### Course S
- **Experiment E2** by Dr. D. R. Ward and Others
  - W. 9.30 (19 Jan.)

---

**EXPERIMENTAL AND THEORETICAL PHYSICS**

*Lectures are given at the Cavendish Laboratory (West Cambridge), in the Pippard Lecture Theatre unless otherwise stated.*

The Year Group Coordinator: Dr. S. R. Julian E-mail: II-physics@phy.cam.ac.uk

Students offering option **A** must take the whole of course **H** in the Michaelmas Term and 32 hours of lectures in that course in the Lent Term. They must in addition take course **I** and a suitable selection from the material of courses **J** and **S**.

Students offering option **B** must take the whole of course **H**. In addition they must take a suitable selection from the material of courses **J** and **S**. Course **I** is non-examinable.

The material of course **J** is examined at the start of the term following that in which each block, TP1 and TP2, is given.

The course will begin with a meeting on the first Wednesday of Full Term (6 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre.*
GENETICS

A detailed timetable for this course is available in the Department of Genetics

GEOLICAL SCIENCES AND MINERAL SCIENCES

Students offering Option A (leading to the three year degree – Part IIA) must take two core courses in the Michaelmas Term and two options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Students offering Option B (leading to Part IIB and to the four year degree – Part III) must take two core courses in the Michaelmas Term and three options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Core C1 Geophysics

PROF. R. S. WHITE, DR. J. A. JACKSON AND DR. P. O’DONALD

Lectures. M. Tu. W. Th. F. 9–10
Practicals. M. Tu. W. Th. F. 10–12

Convenor: DR. J. A. Jackson

Core C2 Petrology and Geochemistry

DR. T. J. B. HOLLAND, DR. G. IBSEN AND DR. R. JAMES

Lectures. Tu. F. Harker Room
Practicals. Tu. F. 10–12

Convenor: DR. S. Gibson

Core C3 Sedimentology and Palaeontology

DR. J. N. MCCAVE, DR. P. F. FRIEND AND DR. R. B. BICKLE, DR. R. A. WOOD

Lectures. W. 9, F. 12 Harker Room
Practicals. W. 10–12, F. 2–4

Convenor: PROF. I. N. McCave

Core C4 Mineralogy

DR. T. J. B. HOLLAND, DR. M. WELCH AND DR. S. A. T. REDFERN

Lectures. M. W. 12 Harker Room
Practicals. M. W. 2–4

Convenor: DR. S. A. T. Redfern

Core C5 Mineral Physics

DR. M. T. DOVE AND DR. M. WELCH

Lectures. Tu. F. 12 Harker Room
Practicals. Tu. F. 2–4 Harker II Room

Convenor: DR. M. T. Dove

Skills Course S1

DR. N. H. WOODCOCK AND DR. A. G. SMITH

Tu. Th. 2–5 Harker Room and Computer Room (First three weeks)
Convenor: DR. N. H. Woodcock

Field Course to Greece 3–11 Dec. 1999

DR. J. A. JACKSON AND DR. A. G. SMITH

Option 1 Basin Dynamics

DR. J. N. WHITE, DR. I. A. JACKSON, DR. P. F. FRIEND AND DR. L. ENGLAND

Lectures. M. 9, Th. 10 Tilley Room
Practicals. M. 10–11.30, Th. 11–12.30

Convenor: DR. J. A. Jackson

The same continued. (Eight revision sessions)

Option 2 Ridges and the Sea Floor

DR. M. J. BICKLE, DR. M. C. SINHA, PROF. R. S. WHITE AND DR. A. SCHULTZ

Lectures. Tu. 9, F. 2 Harker Room
Practicals. Tu. 10–11.30, F. 3–4.30

Convenor: DR. M. C. Sinha

The same continued. (Eight revision sessions)

Option 3 Metamorphic and Igneous Processes

DR. T. J. B. HOLLAND, DR. M. J. BICKLE, PROF. D. P. MCKENZIE, DR. S. GIBSON AND DR. D. M. PYLE

Lectures. W. F. 9 Harker Room
Practicals. W. F. 10–11.30

Convenor: DR. M. J. Bickle

The same continued. (Eight revision sessions)

Option 4 Basin-fill Architecture and Diagenesis

DR. P. F. FRIEND, PROF. I. N. MCCAVE AND DR. J. A. DICKSON

Lectures. Tu. Th. 2 Harker Room
Practicals. Tu. Th. 3–4.30

Convenor: PROF. I. M. McCave

The same continued. (Eight revision sessions)

Option 5 Evolutionary Palaeobiology

DR. B. NORMAN, DR. N. J. BUTTERFIELD, DR. P. UPCHURCH AND DR. J. DEAN

Lectures. M. F. 2 Harker Room
Practicals. M. F. 3–4.30

Convenor: DR. N. J. Butterfield

The same continued. (Eight revision sessions)

continued >
GEOPHYSICAL SCIENCES AND MINERAL SCIENCES (continued)

Option M3 Spectroscopic Studies of Minerals
PROF. E. SALJE, DR. I. FARNAN, DR. A. SHEN,
DR. S. A. T. REDFERN AND DR. M. T. DOVE
Lectures. W. 9, Th. 2 Harker Room II
Practicals. W. 10–11.30, Th. 3–4.30 Harker Room II
Convenor: Dr. I. Farnan

HISTORY AND PHILOSOPHY OF SCIENCE
A detailed timetable and course handbook are available in the Department. For further details contact hps-admin@lists.cam.ac.uk

PRIMARY SOURCES SEMINARS
( It is essential that all N.S.T. Part II students attend this part of the course ) THE TEACHING OFFICERS

W. 4
DR. S. SCHAFER
James Clerk Maxwell's Encyclopedia Britannica entry
‘Atom’ (1875)

PROF. E. LIPTON
Alan Turing, ‘Computing, Machinery and Intelligence’, Mind, vol. LIX (1950), 433–460

DR. L. TAUB
Epicurus’s letter to Pythocles

DR. J. FORRESTER
Sigmund Freud, Three Essays on the Theory of Sexuality

PROF. N. JARDINE
David Hume, Treatise of Human Nature, Book 1, part 2, section 6 and part 4, section 2

DR. J. SECORD
Charles Darwin ‘On the Origin of Species’ 1859 edition

DR. N. HOPWOOD
X-ray image of Mrs Roentgen’s hand (1895)

DR. W. CLARK
Rene Descartes, Discourse on Method

PAPER 1: CLASSICAL TRADITIONS IN THE SCIENCES
(Co-ordinators: Dr. L. Taub and Dr. S. Kusukawa)

DR. L. TAUB, DR. S. KUSUKAWA AND PROF. R. MCKITTERICK
Introduction to Paper 1. Th. 10 (weeks 1–4) (Essential. No supervisions)

DR. L. TAUB, DR. J. MONTGOMERY AND OTHERS
Arabic Science. Th. 10 (weeks 5–8)

PROF. SIR GEOFFREY LLOYD
Ancient Greek Science. [O1] (16 L, 8C) Tu. Th. 11, Tu. 5 Classics Faculty

DR. R. FRENCH
Medieval Natural Philosophy. Tu. 10 (weeks 5–8)

DR. L. TAUB, DR. S. DE RENZL AND DR. L. KASSELL
Instruments, Books and Collections. Tu. 10 (weeks 1–4)

THE TEACHING OFFICERS

Dissertation Seminars. W. 4

DR. A. CUNNINGHAM AND DR. S. KUSUKAWA
God and Nature: Early Modern Natural Philosophy. Tu. 9

DR. L. TAUB, PROF. N. JARDINE AND DR. S. KUSUKAWA
Early Modern Cosmography and Astronomy. Th. 11

The same continued (weeks 1–4)
### PAPER 2: NATURAL AND MORAL PHILOSOPHIES

**Co-ordinator: Dr W. Clark**

- **DR W. CLARK AND MR S. MANDELBROTE**
  - Natural Philosophy and Exact Sciences. Tu. 12
- **DR L. KASSELL**
  - Astrology, Alchemy and Magic. F. 11 (weeks 1–4)
- **DR R. SERJEANTSON**
  - Nature and the Philosophy of Evidence, 1557–1739. F. 11 (weeks 5–8)
- **DR M. FRASCA SPADA**
  - Human Nature and Knowledge I: Locke, Berkeley and Hume. W. 10

### PAPER 3: SCIENCE, INDUSTRY AND EMPIRE

**Co-ordinator: Dr J. Secord**

- **DR J. SECORD**
  - Defining Science in the Nineteenth Century: Britain and France. M. 11 (weeks 1–4)
- **DR N. HOPWOOD, DR S. DE CHADAREVIAN AND PROF. N. JARDINE**
  - Laboratories and Disciplines from the Napoleonic Wars to National Socialism. W. 3
- **DR J. SECORD**
  - Darwin and Evolution. Th. 3

### PAPER 4: METAPHYSICS, EPISTEMOLOGY, AND THE SCIENCES

**Co-ordinator: Prof. P. Lipton**

- **DR R. JENNINGS**
  - Recent History of the Philosophy of Science. M. 10
- **PROF. P. LIPTON**
  - Explanation, Causation and Law. W. 12
- **DR M. HOGARTH**
  - The Metaphysics of Space and Time. M. 3
- **DR M. HILD**
  - Probability and Scientific Inference. F. 2 (weeks 5–8)

### PAPER 5: SCIENCE AND TECHNOLOGY STUDIES

**Co-ordinator: Dr J. Secord**

- **DR A. BARRY**
  - Social Theory. F. 2 (weeks 1–4)
- **DR P. GOULD AND DR D. THOM**
  - Gender and Science. (4 L, 4 C). M. 2
- **DR J. FORRESTER, DR R. JENNINGS AND OTHERS**
  - Ethical Dimensions of Science. W. 11
- **PROF. N. JARDINE**
  - Historiography of the Sciences. W. 2

### PAPER 6: HISTORY AND PHILOSOPHY OF MIND

**Co-ordinator: Dr J. Forrester**

- **DR J. FORRESTER**
  - Freud, Psychoanalysis and the Twentieth Century. F. 10 (weeks 1–7)  *Mill Lane Lecture Room 4*

---

**HISTORY AND PHILOSOPHY OF SCIENCE (continued)**

- The same continued
- **DR M. FRASCA SPADA AND PROF. N. JARDINE**
  - Human Nature and Knowledge II: Kant. F. 12 (weeks 5–8)
- **PROF. N. JARDINE, DR E. SPARY AND DR P. WHITE**
  - Natural Histories. M. 3
- **DR L. TAUB**
  - Instruments, Models and Tools. Tu. 11 (weeks 1–4)
- **DR W. CLARK**
  - History of Universities I. Th. 3 (weeks 1–4)
- **DR M. HOGARTH**
  - History of Theoretical Physics; 1850–1950. M. 2
- **DR J. SECORD, DR L. TAUB, DR O. SIBUM AND OTHERS**
  - Instruments, Models, and Working Experiments. M. 11, F. 2 (weeks 1, 2)
- **DR W. CLARK**
  - History of Universities II. Th. 3 (weeks 5–8)
- **DR J. SECORD**
  - Science and Imperialism. W. 10
- **DR P. FARA**
  - Images of Science. M. 10 (weeks 1–4)

- **DR J. FORRESTER**
  - Thinking in Cases. W. 11
- **PROF. P. LIPTON**
  - Problems of Induction. W. 12

- **DR S. DE CHADAREVIAN**
  - Science and War. M. 10 (weeks 5–8)
- **DR W. CLARK**
  - Sociology of Scientific Knowledge. W. 2 (weeks 1–4)
- **DR J. SECORD**
  - Science Communication. W. 2 (weeks 5–8)

- The same continued. Th. 10 (weeks 1–5)
- **MS L. SINGH**
  - Psychopharmacology in History and Culture. Tu. 10 (weeks 5–8)
- **DR D. THOM**
  - Topics in the History of British Psychology. F. 10
- **DR N. MANSON**
  - Unconscious Mentality and Freud's Methodology. W. 3
- **PROF. P. LIPTON**
  - Topics in the Philosophy of Mind. F. 11  *Maxwell Lecture Theatre*

continued >
HISTORY AND PHILOSOPHY OF SCIENCE (continued)

PAPER 7: HISTORY OF MEDICINE FROM ANTIQUITY TO THE ENLIGHTENMENT
(Co-ordinator: Dr N. Hopwood)
DR R. FRENCH
History of Prescientific Medicine. Tu. 2, Th. 12

PAPER 8: MODERN MEDICINE AND BIOMEDICAL SCIENCES
(Co-ordinator: Dr N. Hopwood)
DR N. HOPWOOD, DR S. DE CHADAREVIAN AND DR H. KAMMINGA
Making Modern Medicine. M. F. 12, Th. 2

PROF. G. LLOYD
Disease in Greek Thought. Th. 12 Classics Faculty
DR C. SALAZAR
Surgery in the Ancient World. F. 12 (weeks 1–4)
DR S. KUSUKAWA
Renaissance Medical Illustration. Th. 2 (weeks 1–4)
DR S. DE RENZI
Medicine and the Law, 1500–1800. Tu. 2 (weeks 5–8)

DR G. BERRIOS
History of Psychopathology and Psychiatry. M. 12 (weeks 1–4)
DR J. FORRESTER
Social and Institutional History of Psychiatry. M. 12 (weeks 5–8)
DR A. CUNNINGHAM
Dissection and the Body in the Age of Revolutions. Tu. 2 (weeks 1–4)
DR N. HOPWOOD
Embryos and the Unborn. Th. 2 (weeks 5–8)

Prof. Lipton and Dr Secord would like to see all Part II students on Wednesday, 6 October at 11 a.m. in Seminar Room 2, Department of History and Philosophy of Science, Free School Lane

Attention is drawn to courses announced by other authorities. Students are particularly advised to attend other relevant courses in the Faculties of History, Philosophy and Social and Political Sciences.

DR P. BURSILL-HALL
Topics in the History of Mathematics. M. W. F. 4
Mill Lane Lecture Room
PROF. E. J. CRAIG
Hume. Tu. Th. 12 (weeks 1–4) [Phil]

DR F. WATTS
Theological and Scientific Perspectives. M. 11 [Div]
Divinity School
DR P. SMITH
Theories and Theory Change. Th. 12 [Phil]
DR N. HALLOWELL, MR G. RADICK AND DR D. THOM
Darwinism and the Social Sciences. Tu. 2

SPS Seminar Room
DR N. WRIGHT
Latin for Beginners [32C]. M. Tu. Th. F. 5
Classics Faculty

DR B. HILTON AND DR J. SECORD
Science and Religion in Britain, c. 1830–1870. F. 10 (from 18 Feb.) [Hist]
DR P. SMITH
Scientific Realism. W. 12 [Phil]

The same continued (32C). M. Tu. Th. F. 5

The same continued (16C). M. Tu. Th. F. 5
All lectures will be given in the Austin Building Lecture Theatre

A detailed timetable is available in the Department

INDUSTRIAL VISITORS
To be announced

Industrial Visit
All day (2 Dec.)

Example Classes
M. Th. 11.15–1 (beginning 11 Oct.)

Practical Classes
M. Tu. W. 2–5 (Two sessions, to be chosen each week)

Management Option
DR G. BURSTEIN and PROF. D. J. FRA Y
F. 2–3

Language Option
(Two hours per week) M. 4–6 or Tu. 4–6 or W. 2–4 or
Th. 2–4 or Th. 4–6 or F. 2–4.

Module 1. Development, Degeneration and Regeneration
M. Th. 9, M. 12

M. Th. 9, M. 12

Module 2. Cellular and molecular neurobiology
Lectures. W. F. 9

PROF. E. R. KEVERNE
Development of brain and behaviour. (Three lectures, 17, 20, 24 Jan.)

DR M. SOPRONEW
Neural degeneration. (Four lectures, 27 Jan., 3, 7, 10 Feb.)

READING WEEK (21–26 Feb.)

DR R. BARKER
Neural regeneration. (Four lectures, 14, 17 Feb., 9, 13 Mar.)

MR P. KIRKPATRICK
Protection from ischaemia. (One lecture, 16 Mar.)

DR. E. R. WALLACH
C2 Selection of Materials
DR G. GOLDBECK-WOOD
C14 Polymer Processing
DR D. KNOWLES
C15 Fracture and Fatigue

PROF. J. E. EVETTS
C5 Physical Properties

C10 Polymer Microstructures

C11 Surfaces and Interfaces

C16 Composite Materials

PROF. A. H. WINDLE
C7 Kinetics

Dr. T. W. CLYNE
C8 Chemical Stability

DR J. A. LITTLE
C9 Alloys

DR H. K. D. H. BHADRESHIA
C12 Plasticity and Deformation

DR W. J. CLEGG
C13 Ceramics

DR R. V. KUMAR
C17 Heat and Mass Transfer

Module 2. Cellular and molecular neurobiology
Lectures. W. F. 9

DR R. MURRELL-LAGNADO
Membrane-located voltage sensors and control of
neurone function. (Five lectures, 6, 8, 13, 15, 20 Oct.)

DR J. A. KOENIG
Receptor – control of neuronal excitability (a) slow
neurotransmitters. (Four lectures, 22, 27, 29 Oct.,
3 Nov.)

DR A. J. MORTON
Receptor – control of neuronal excitability (b) fast
neurotransmitters. (Five lectures, 5, 17, 19, 24, 26 Nov.)

DR E. K. MATTHEWS
Free radicals in neuronal systems. (One lecture, 1 Dec.)

NEUROSCIENCE
Course Co-ordinator Dr R. Hardie E-mail: rch14@hermes.cam.ac.uk

All lectures will be held in Lecture Room 2 Austin Building, unless otherwise stated

Dr. B. MCCABE
Synaptic plasticity. (Three lectures, 1, 3, 8 Mar.)

DR H. BADING
Regulation of gene expression. (Two lectures
10, 15 Mar.)

continued >
Module 3. Control of action
Lectures. M. 12*, W. F. 10
PROF. M. BURROWS
Synaptic, cellular and network properties. (Four lectures, 6, 8, 13, 15 Oct.)
DR S. EDGLEY
Cerebellum. (Four lectures, 18*, 20, 22, 27 Oct.)
DR S. BAKER
Motor cortex. (Three lectures, 29 Oct., 3, 5, Nov.)
READING WEEK (8–12 Nov.)
DR P. EVANS
Modulating a system. (Four lectures, 17, 19, 24, 26 Nov.)
DR S. EDGLEY
Skilled movement discussion. (One lecture, 1 Dec.)

Module 4. Sensory systems
Lectures. Tu. 9, Th. 10
DR R. HARDIE
Photoreceptors. (Four lectures, 7, 12, 14, 19 Oct.)
PROF. E. B. KEVERNE
Olfactory receptors. (Two lectures, 21, 26 Oct.)
PROF. S. LAUGHLIN
Visual processing in the retina. (Five lectures, 28 Oct., 2, 4, 16, 18 Nov.)
READING WEEK (8–12 Nov.)
DR A. PELAH
Visual processing in the cortex. (Four lectures, 23, 25, 30 Nov., 2 Dec.)

Module 5. Learning, Memory and Cognition
Lectures. M. Tu. 10
DR B. MCCABE
Cellular mechanisms of learning and memory. (Four lectures, 11, 12, 18, 19 Oct.)
DR P. BRENNAN
Olfactory learning. (Four lectures, 25, 26 Oct., 1, 2 Nov.)
DR A. DICKINSON
Conditioning and associative learning. (Four lectures, 15, 16, 22, 23 Nov.)
PROF. N. J. MACKINTOSH
Discrimination learning. (Two lectures, 23, 30 Nov.)

Introductory lecture All options. W. 5 (One lecture, 6 Oct.)
It is important that all students attend the introductory lecture
Option A Cellular Pathology
 Lectures. Tu. Th. S. 9
DR P. WEISSBERG, DR S. THIRU, DR M. R. BENNETT, DR C. FITZSIMMONS, DR K. L. H. CARPENTER, PROF. S. K. SMITH AND DR M. J. MITCHINSON
Arterial Disease
DR Y. W. LOKE AND DR A. KING
Immunobiology of Reproduction

Option B Immunology
 Lectures. Tu. Th. S. 10.15
PROF. I. MCCONNELL AND DR H. REYBURN
Haemopoietic and Lymphoid Systems
DR D. ALEXANDER AND PROF. D. FEARON
Lymphocyte signalling
DR M. R. CLARK
Immunoglobulins and T-cell receptors
PROF. J. TROWSDALE AND DR A. KELLY
Major histocompatibility complex and Antigen Presentation

NEUROSCIENCE (continued)

DR L. ANNETT
Striatum. (Four lectures, 19, 21, 26, 28 Jan.)
DR M. HASTINGS
Biological rhythms. (Four lectures, 4, 9, 11, 16 Feb.)
READING WEEK (21–26 Feb.)
DR R. CARPENTER
Neural decisions. (Three lectures, 28 Feb*, 1, 3 Mar.)
DR J. HERBERT
Chemical control of motivation and emotion. (Four lectures, 8, 10, 15, 17 Mar.)

DR A. FINDLAY
Somatic sensation. (Three lectures, 18, 20, 25 Jan.)
PROF. A. CRAWFORD
Auditory hair cells. (Two lectures, 27 Jan., 1 Feb.)
PROF. S. LAUGHLIN
Active senses in bats and electric fish. (Four lectures, 3, 8, 10, 15 Feb.)
READING WEEK (21–26 Feb.)
DR J. ALCANTARA
Hearing. (Four lectures, 29 Feb., 2, 7, 16 Mar.)
DR K. KRUMBHOLZ
Hearing – Psychophysics. (Two lectures, 9, 14 Mar.)

PROF. T. W. ROBBINS
Brain mechanisms of memory and cognition. (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 6, 13 Mar.)
Lecture Room 1 Austin Building
DR R. A. McCARTHY
Cognitive neuropsychology. (Eight lectures, 18, 25 Jan., 1, 8, 15, 29 Feb., 7, 14 Mar.)
READING WEEK (21–26 Feb.)

PATHOLOGY
Course organiser: Dr M. Clark E-mail: mrc7@cam.ac.uk
At the Department of Pathology further details will be posted in our Department and are also available on our web server (URL: http://www.path.cam.ac.uk)
NATURAL SCIENCES TRIPOS, PART II (continued)

PATHOLOGY (continued)

Option C Microbial and Parasitic Disease
Lectures. M. W. F. 9
DR. V. KORONAKIS
Bacterial Disease and Pathogenicity
DR. D. BROWN, DR. V. KORONAKIS AND DR. J. WELLS
Combating Bacterial Disease
DR. A. LEVER
Fungal Infections
DR. V. KORONAKIS AND DR. J. AJIOKA
Research seminars

Option D Virology
Lectures. M. W. F. 5
PROF. A. C. MINSON AND DR. A. BLOOMER
Basic Principles
DR. I. BRIERLEY AND DR. P. OLIVER
Multiplication of Bacteriophage
DR. T. D. K. BROWN, DR. I. BRIERLEY, DR. J. KARN AND
DR. J. H. SINCLAIR
Animal Virus Multiplication

Option E Genetic Pathology
Lectures. Tu. Th. S. 9
DR. J. FURNER, PROF. M. A. FERGUSON-SMITH, DR. J. YATES,
DR. M. EVANS AND DR. N. A. AFFARA
Strategies for Analysing Complex Genomes
DR. N. A. AFFARA, DR. D. RUBINSZTEIN, DR. D. BARTON,
DR. M. POPE, PROF. T. COX, DR. M. EVANS,
DR. D. MACDONALD, DR. R. TREMBATH,
DR. S. KENWRICK AND DR. M. PATTERSON
Studying Disease Genes

Option C Microbial and Parasitic Disease
Lectures. M. W. F. 9
DR. B. KINGSTON, DR. J. AJIOKA AND DR. R. LE PAGE
Major Protozoal Diseases
DR. D. DUNNE AND DR. B. KINGSTON
Major Helminth Diseases

Option D Virology
Lectures. M. W. F. 5
DR. P. SISSONS, DR. T. D. K. BROWN,
DR. S. EFSTATHIO, DR. I. BRIERLEY AND
PROF. A. C. MINSON
Viruses in the Multicellular Host.
DR. S. INGLIS
Viruses in the Community
DR. H. BROWNE AND DR. G. DARBY
Intervention

Option E Genetic Pathology
Lectures. Tu. Th. S. 9
DR. P. A. W. EDWARDS, DR. T. R. HESKETH,
DR. A. KOUZARIDES, PROF. B. A. PONDER,
DR. G. EVAN AND DR. J. DOORBAR
Somatic Changes to the Genome and Cancer

#Pharmacology of Integrated Systems

Lectures will be given in the Lecture Theatre, Department of Pharmacology

#Pharmacology of Integrated Systems

DR. T. P. D. FAN
Pharmacology of inflammation and the
immune response. M. W. F. 9
(Five lectures, 21–31 Jan.)
DR. R. M. HENDERSON
Hyperlipidaemias and the pharmacology of
the liver. W. F. 9 (Two lectures, 2, 4 Feb.)
DR. S. B. HLADKY
General anaesthetics. M. W. F. 9
(Three lectures, 7–11 Feb.)
DR. W. WISDEN
Excitatory amino acids. M. W. F. 9
(Three lectures, 14–18 Feb.)
PROF. P. A. MCNAUGHTON
Cellular and Molecular Aspects of Pain.
M. W. F. 9 (Four lectures, 1–8 Mar.)

#Medical and Veterinary Sciences Tripos, Part II Pharmacology of Integrated Systems
Medical and Veterinary Sciences Tripos, Part II Four paper pharmacology consists of all the lectures offered for NST Part II Pharmacology
Molecular and Cellular Pharmacology
DR. R. M. HENDERSON
Patch clamp recording. Tu. Th. 9
M. W. F. 10 (Three lectures, 8–13 Oct.)
DR. E. K. MATTHEWS
Hormone receptors and growth factors. Tu. Th. 9
(Four lectures, 12–21 Oct.)
DR. P. J. RICHARDSON
Molecular biology of ligand-gated channels and G-protein coupled receptors. M. W. F. 10
(Six lectures, 15–27 Oct.)
DR. L. M. YOUNG
Quantitative receptor pharmacology. Tu. Th. 9
(Three lectures, 26 Oct.–4 Nov.)
DR. R. MURRELL-LAGNADO, DR. S. B. HLADKY AND
DR. E. K. MATTHEWS
Potassium, sodium and calcium channels. M. W. F. 10
(Eleven lectures, 29 Oct.–22 Nov.)
DR. M. J. WARING AND DR. V. K. CHATTERJEE
Drugs, receptors and DNA. Tu. Th. 9 (Five lectures, 9–23 Nov.)
DR. P. M. DEAN AND DR. P. J. RICHARDSON
Pharmacogenomics. Tu. Th. 9 (Four lectures, 24 Nov.–1 Dec.)
DR. E. K. MATTHEWS
Photon pharmacology. Tu. Th. 9 (Two lectures, 25–30 Nov.)

Common Module
(M. W. F. 10)

PHYSIOLOGY

All lectures in the Bryan Matthews Room, Department of Physiology, unless otherwise stated
Timetable Co-ordinator: Dr C. L-H. Huang E-mail: clh11@cus.cam.ac.uk
(Module Organisers are shown below in brackets)

Candidates must attend instruction on experimental procedures from the morning of Thursday 23 September 1999

Common Module, (Dr. R. M. Henderson)
Patch clamp recording. M. W. F. 10 (Three lectures, 8–13 Oct.)

Common Module, (Dr. R. R. Findlay)
Writing up a project and preparing a poster. Th. 9 (One session, 22 Jan.)

Other sessions

DR. J. W. FAWCETT
Module 1 Journal Club. M. Th. 4.30
(Two sessions, 14 Jan., 24 Feb.)

DR. R. H. S. CARPENTER
Module 2 Journal Club. M. Tu. 4.30
(Two sessions, 14 Jan., 24 Feb.)

DR. C. J. SCHWENING
Module 3 Journal Club. M. Th. 4.30
(Two sessions, 14 Jan., 24 Feb.)

DR. J. W. FAWCETT
Module 4 Journal Club. M. Th. 4.30
(Two sessions, 14 Jan., 24 Feb.)

DR. R. H. S. CARPENTER
Module 5 Journal Club. M. Tu. 4.30
(Two sessions, 14 Jan., 24 Feb.)

DR. C. J. SCHWENING
Module 6 Journal Club. M. Tu. 4.30
(Two sessions, 14 Jan., 24 Feb.)

SmithKline Beecham Field Trip – Friday 8 Oct.
The coach will leave the main Downing Site entrance on Tennis Court Road at 9 a.m.

Later sessions

DR. J. W. FAWCETT
Research opportunities. Tu. Th. 9 (One lecture, 9 Nov.)

DR. C. J. SCHWENING AND DR. D. I. TOLHURST
Excel and Statistics. Tu. Th. 9 (Two sessions, 23 Nov.)

DR. A. L. R. FINDLAY
Libraries and information databases. Tu. Th. 9
(Two sessions, 23 Nov.)

continued >
Module 1. Sensory Systems.  W. Th. 9 (Dr I. M. Winter)
  PROF. T. D. LAMB
  Photoreceptors. (Six lectures, 13, 14, 20, 21, 27, 28 Oct.)
  PROF. A. C. CRAWFORD
  Peripheral Auditory System. (Four lectures, 3, 10, 17, 24 Nov.)
  DR D. J. TOLHURST
  The Visual Cortex. (Four lectures, 4, 11, 18 Nov., 1 Dec.)

Module 2. Motor Systems.  F. 9, 11 unless otherwise stated
  (Dr R. H. S. Carpenter)
  DR C. L-H. HUANG
  Activation of skeletal muscle. Th. 2, F. 9, 11
  (Three lectures, 14, 15 Oct.)
  PROF. A. C. CRAWFORD
  Muscle spindles. F. 9, 11 (Two lectures, 22 Oct.)
  DR R. H. S. CARPENTER
  Motor control systems. F. 9, 11 (Four lectures, 29 Oct., 5 Nov.)
  DR R. H. S. CARPENTER
  Neurophysiology of eye movements. F. 9
  (Five lectures, 21, 28 Jan., 4, 11, 18 Feb.)
  DR A. PELAH
  Visuomotor adaptation and control. F. 11
  (Two lectures, 21, 28 Jan.)
  DR H. R. MATTHEWS
  Long-latency Reflexes. F. 11 (Three lectures, 4, 11, 18 Feb.)
  DR J. C. ROTHWELL
  Cortical and subcortical control of movement. F. 9, 11
  (Six lectures, 25 Feb., 3, 10 Mar.)

Module 3. Systems Physiology and Transport.  M. 9, Th. 11 (Dr J. C. D. Hickson)
  PROF. J. T. FITZSIMONS
  Thirst. (Six lectures, 7, 14 Oct., 8, 15, 22, 29 Nov.)
  DR A. V. EDWARDS
  Autonomic neuropeptides. (Four lectures, 11, 18, 25 Oct., 1 Nov.)

Module 4. Developmental and Fetal Physiology.  Th. F. 12
  Unless otherwise stated (Dr W. H. Colledge)
  DR S. K. L. ELLIONGTON
  Embryogenesis. Th. 9 (7 Oct.); Th. F. 12 (15, 22, 29 Oct.) (Four lectures)
  DR R. J. BARNES
  Developmental physiology of organ systems. (Three lectures, 7, 14, 21 Oct.)
  DR D. A. GIUSANI
  Fetal control mechanisms. (Two lectures, 4, 11 Nov.)
  DR W. H. COLLEDGE
  Transgenesis. (Four lectures, 5, 12, 19, 26 Nov.)
  DR A. L. FOWDEN
  Fetal development: growth and metabolism. (Two lectures, 18, 25 Nov.)

Module 5. Cellular Physiology.  M. 10, Tu. 9
  (Dr C. J. Schwiening)
  DR M. MASON
  Measurement of intracellular calcium. (Three lectures, 11, 12, 26 Oct.)
  DR R. L. LEW
  Energetics of calcium transport. (Three lectures, 18, 19, 25 Oct.)
  DR M. MAHTAUT-SMITH
  Calcium signalling. (Three lectures, 1, 2, 8 Nov.)
  DR H. P. C. ROBINSON
  Synaptic mechanisms. (Four lectures, 15, 16, 22, 23 Nov.)
  PROF. R. C. THOMAS
  Intracellular pH regulation. (Two lectures, 29, 30 Nov.)

 Module 1. Sensory Systems.  W. Th. 9 (Dr I. M. Winter)
  DR A. L. R. FINDLAY
  Somatic Sensation. (Four lectures, 20, 26, 27 Jan., 2 Feb.)
  DR R. D. PATTERSON
  Higher Auditory Processing. (Three lectures, 3, 10, 16 Feb.)
  DR I. M. WINTER
  Central Auditory Neurophysiology. (Five lectures, 9 Feb., 1, 2, 9, 16 Mar.)
  PROF. H. B. BARLOW
  Higher Visual Functions. (Three lectures, 17, 23, 24 Feb.)

Module 2. Motor Systems.  F. 9, 11 as stated
  (Dr R. H. S. Carpenter)
  DR R. H. S. CARPENTER
  Neurophysiology of eye movements. F. 9
  (Five lectures, 21, 28 Jan., 4, 11, 18 Feb.)
  DR A. PELAH
  Visuomotor adaptation and control. F. 11
  (Two lectures, 21, 28 Jan.)
  DR H. R. MATTHEWS
  Long-latency Reflexes. F. 11 (Three lectures, 4, 11, 18 Feb.)
  DR J. C. ROTHWELL
  Cortical and subcortical control of movement. F. 9, 11
  (Six lectures, 25 Feb., 3, 10 Mar.)

Module 3. Systems Physiology and Transport.  M. 9, Th. 11 (Dr J. C. D. Hickson)
  DR S. L. DICKSON
  Details to be announced.
  DR J. C. D. HICKSON
  Gut. (Six lectures, 31 Jan., 3, 7, 21 Feb., 6, 9 Mar.)
  DR J. BROWN
  Fluid balance. (Six lectures, 10, 14, 17, 24, 28 Feb., 2 Mar.)

Module 4. Developmental and Fetal Physiology.  Th. F. 12
  (Dr W. H. Colledge)
  DR R. J. BARNES
  Developmental physiology of organ systems. (Three lectures, 20, 27 Jan., 10 Feb.)
  PROF. M. A. H. SURANI
  Developmental biology. (Four lectures, 21, 28 Jan., 4, 11 Feb.)
  DR D. A. GIUSANI
  Fetal control mechanisms. (Two lectures, 3, 25 Feb.)
  DR A. L. FOWDEN
  Fetal development: growth and metabolism. (Four lectures, 17, 18, 24 Feb., 2 Mar.)

Module 5. Cellular Physiology.  M. 10, Tu. 9
  (Dr C. J. Schwiening)
  DR M. MASON
  Measurement of intracellular calcium. (Three lectures, 11, 12, 26 Oct.)
  DR R. L. LEW
  Energetics of calcium transport. (Three lectures, 18, 19, 25 Oct.)
  DR M. MAHTAUT-SMITH
  Calcium signalling. (Three lectures, 1, 2, 8 Nov.)
  DR H. P. C. ROBINSON
  Synaptic mechanisms. (Four lectures, 15, 16, 22, 23 Nov.)
  PROF. R. C. THOMAS
  Intracellular pH regulation. (Two lectures, 29, 30 Nov.)

Module 1. Sensory Systems.  W. Th. 9 (Dr I. M. Winter)
  DR A. L. R. FINDLAY
  Somatic Sensation. (Four lectures, 20, 26, 27 Jan., 2 Feb.)
  DR R. D. PATTERSON
  Higher Auditory Processing. (Three lectures, 3, 10, 16 Feb.)
  DR I. M. WINTER
  Central Auditory Neurophysiology. (Five lectures, 9 Feb., 1, 2, 9, 16 Mar.)
  PROF. H. B. BARLOW
  Higher Visual Functions. (Three lectures, 17, 23, 24 Feb.)

Module 2. Motor Systems.  F. 9, 11 as stated
  (Dr R. H. S. Carpenter)
  DR R. H. S. CARPENTER
  Neurophysiology of eye movements. F. 9
  (Five lectures, 21, 28 Jan., 4, 11, 18 Feb.)
  DR A. PELAH
  Visuomotor adaptation and control. F. 11
  (Two lectures, 21, 28 Jan.)
  DR H. R. MATTHEWS
  Long-latency Reflexes. F. 11 (Three lectures, 4, 11, 18 Feb.)
  DR J. C. ROTHWELL
  Cortical and subcortical control of movement. F. 9, 11
  (Six lectures, 25 Feb., 3, 10 Mar.)

Module 3. Systems Physiology and Transport.  M. 9, Th. 11 (Dr J. C. D. Hickson)
  DR S. L. DICKSON
  Details to be announced.
  DR J. C. D. HICKSON
  Gut. (Six lectures, 31 Jan., 3, 7, 21 Feb., 6, 9 Mar.)
  DR J. BROWN
  Fluid balance. (Six lectures, 10, 14, 17, 24, 28 Feb., 2 Mar.)

Module 4. Developmental and Fetal Physiology.  Th. F. 12
  (Dr W. H. Colledge)
  DR R. J. BARNES
  Developmental physiology of organ systems. (Three lectures, 20, 27 Jan., 10 Feb.)
  PROF. M. A. H. SURANI
  Developmental biology. (Four lectures, 21, 28 Jan., 4, 11 Feb.)
  DR D. A. GIUSANI
  Fetal control mechanisms. (Two lectures, 3, 25 Feb.)
  DR A. L. FOWDEN
  Fetal development: growth and metabolism. (Four lectures, 17, 18, 24 Feb., 2 Mar.)

Module 5. Cellular Physiology.  M. 10, Tu. 9
  (Dr C. J. Schwiening)
  DR M. MASON
  Measurement of intracellular calcium. (Three lectures, 11, 12, 26 Oct.)
  DR R. L. LEW
  Energetics of calcium transport. (Three lectures, 18, 19, 25 Oct.)
  DR M. MAHTAUT-SMITH
  Calcium signalling. (Three lectures, 1, 2, 8 Nov.)
  DR H. P. C. ROBINSON
  Synaptic mechanisms. (Four lectures, 15, 16, 22, 23 Nov.)
  PROF. R. C. THOMAS
  Intracellular pH regulation. (Two lectures, 29, 30 Nov.)
Module 6. Topics in Clinical Physiology. W. F. 10
In the Biffin Lecture Theatre unless otherwise stated
(Dr R. J. Barnes)
DR R. J. BARNES
Introduction, Starling, Guyton and the circulation. (Two lectures, 8, 13 Oct.)
DR C. SPEED
Measuring Human Performance. (One lecture, 15 Oct.)
DR L. SHAPIRO
The heart and exercise. (One lecture, 20 Oct.)
DR J. JENNER
Human muscle and human performance. (One lecture, 22 Oct.)
PROF. J. T. FITZSIMMONS
Ventricular failure, pulmonary vascular physiology, asthma, bronchitis and emphysema. (Five lectures, 21, 26, 28 Jan., 2, 4 Feb.)
PROF. J. T. FITZSIMMONS
Hypertension. (Four lectures, 9, 11, 16, 18 Feb.)
DR M. LOWE
Electricity and arrhythmias. (Two lectures, 23, 25 Feb.)
DR M. C. PETCH
Abnormal haemodynamics, myocardial ischaemia and myocardial failure. (Three lectures, 1, 3, 8 Mar.)
DR A. ODORO
Myocardial protection. (Two lectures, 10, 15 Mar.)

Module 7. Medical Aspects of Neurology. Tu. Th. 10
In the Physiology main lecture theatre
(Dr J. W. Fawcett)
DR I. M. WINTER
Hearing disorders. (Two lectures, 20, 25 Jan.)
DR D. J. TOLHURST
Visual disorders. (Three lectures, 27 Jan., 1, 3 Feb.)
DR R. BARKER
Acute and chronic pain. (Two lectures, 10, 15 Feb.)
DR J. HUNTER
Development of CNS pharmaceutical compounds. (One lecture, 17 Feb.)
DR A. ROBERTS
Cognitive disorders in neurological disease. (Two lectures, 22, 24 Feb.)
DR C. L-H. HUANG
Neurological imaging F. 12. (Two lectures, 29 Feb., 3 Mar.)
PROF. I. GOODYER, DR T. HOLLAND AND DR P. BOLTON
Scientific basis and treatment of psychiatric disorders. (Four lectures, 2, 7, 9, 14 Mar.)

PLANT SCIENCES
Course co-ordinator: Dr P. J. Grubb E-mail: pjt12@cus.cam.ac.uk

All lectures take place in the Tom ap Rees Lecture Room of the Department of Plant Sciences, unless otherwise stated
### Plant Sciences (continued)

**Dr. A. G. Smith**  
Molecular biology of plant genomes.  
M. W. F. 11 (Twelve lectures, 21 Jan.–16 Feb.)

**Dr. M. A. Tester**  
Plant nutrition in environmental extremes.  
Tu. Th. 10 (Twelve lectures, 1 Feb.–9 Mar.)

**Dr. I. P. Haseloff**  
Plant embryogenesis and meristem development.  
Tu. Th. 9 (Six lectures, 18 Jan.–6 Feb.)  
*Please note the early start of this course*

**Prof. J. B. Gurdon, Dr. D. St. Johnston, Prof. C. M. Bate, Dr. J. P. Haseloff, and Dr. D. E. Hanke**  
(Interdepartmental Course) Developmental biology.  
M. Tu. F. 5 (Twenty-four lectures, 21 Jan.–15 Mar.)  
Biffen Lecture Theatre, Department of Genetics

**Dr. M. Brooke, Dr. W. Amos, Dr. A. Balmford, Dr. D. Briggs, and Dr. E. V. J. Tanner**  
(Interdepartmental Course) Conservation biology.  
M. W. F. 5 (Twenty-four lectures, 21 Jan.–15 Mar.)  
Advanced Lecture Theatre, Department of Zoology

### Psychology

**Course organiser:** Dr. J. Russell  
E-mail: j.russell@psychol.cam.ac.uk

*Lectures will be held in The Lecture Theatre, Department of Experimental Psychology, unless otherwise stated*

#### General Courses

**Prof. N. J. Mackintosh**  
General Introduction. (One lecture only, 7 Oct.)  
Physiological Lecture Theatre 3

**Dr. B. R. Bradley**  
Introduction Statistics. M. Tu. W. F. 2 (Four classes only, 6, 8, 11, 12 Oct.)  
All two hours  
Craik Marshall Seminar Room

**Dr. I. P. L. McLaren**  
Physiology Lecture Theatre 3

Examples classes. Tu. 2 (19, 26 Oct., 2, 9 Nov.)  
All two hours  
Practical Classroom

#### Section A

**Prof. B. C. J. Moore**  
Hearing. M. 10 (Eight lectures, beginning 11 Oct.); F. 10 (Eight lectures, beginning 8 Oct.)

**Prof. J. D. Mollon**  
Vision. W. 10 (Eight lectures, beginning 13 Oct.)

**Dr. M. Eimer**  
Attention. W. 12 (Eight lectures, beginning 13 Oct.)

#### Section B

**Prof. I. P. L. McLaren**  
Connectionism. F. 11 (Eight lectures, beginning 8 Oct.)

**Dr. I. P. L. McLaren**  
Learning, Memory and Cognition. Tu. 10 (Eight lectures, beginning 12 Oct.); W. 11 (Eight lectures beginning 13 Oct.)

**Dr. D. R. Lamming**  
Human Judgment. Th. 10 (Eight lectures, beginning 7 Oct.); Tu. 9 (Eight lectures, beginning 12 Oct.); Tu. 5 (Supplementary films and one lecture; eight meetings, beginning 12 Oct.)

#### Section A

**Prof. J. D. Mollon**  
Vision. Th. 10 (Seven lectures, 20, 27 Jan., 3, 10, 17 Feb., 2, 9 Mar.)

**Dr. P. Whittle**  
New approaches to Perception. W. 12 (Four lectures, 16 Feb., 1, 8, 15 Mar.)

**Dr. M. Eimer**  
Motor Control. F. 12 (Eight lectures, 21, 28 Jan., 4, 11, 18 Feb., 3, 10, 17 Mar.)

#### Section B

**Prof. L. K. Tyler and Dr. H. E. Moss**  
Language, Mind and Brain. Tu. 12 (Eight lectures, 18, 25 Jan., 1, 8, 15, 29 Feb., 7, 14 Mar.); F. 10 (Eight lectures, 21, 28 Jan., 4, 11, 18 Feb., 3, 10, 17 Mar.)

**Prof. N. J. Mackintosh**  
Intelligence. Th. 9 (Eight lectures, 20, 27 Jan., 3, 10, 17 Feb., 2, 9, 16 Mar.)

**Physiology Lecture Theatre 3**

**Dr. D. R. Lamming**  
Human Motivation. Th. 9 (Eight lectures, 18, 25 Jan., 1, 8, 15, 29 Feb., 7, 14 Mar.); Tu. 5 (Supplementary Films; eight meetings, 18, 25 Jan., 1, 8, 15, 29 Feb., 7, 14 Mar.); F. 9 (Eight lectures, 21, 28 Jan., 4, 11, 18 Feb., 3, 10, 17 Mar.)

**Dr. J. Devlin**  
Connectionism 2: Neural Information Processing. M. 11 (Four lectures, 14, 28 Feb., 6, 13 Mar.)
## Section C

**DR A. DICKINSON**  
Comparative Psychology of Learning and Cognition. M. 12 (Eight lectures, beginning 11 Oct.); F. 12 (Eight lectures, beginning 8 Oct.)

**PROF. T. W. ROBBINS AND PROF. B. J. EVERITT**  
Brain Mechanisms of Motivation. M. 11 (Seven lectures, 11, 18 Oct., 1, 8, 15, 22, 29 Nov.); Tu. 12 (Seven lectures, 12, 19 Oct., 2, 9, 16, 23, 30 Nov.)

### Section D

**DR J. RUSSELL**  
Developmental Psychology. F. 9 (Eight lectures, beginning 8 Oct.)

**DR S. BARON-COHEN AND DR B. P. BRADLEY**  
Abnormal Psychology. Th. 12 (Eight lectures, beginning 7 Oct.)

**DR J. STEVENSON-HINDE AND OTHERS**  
Developmental Psychology Seminars. W. 5 (Four meetings, 10, 17, 24 Nov., 1 Dec.)

**DR K. C. PLAISTED**  
Developmental Psychology. Th. 2 (Eight lectures, beginning 7 Oct.)

---

### Section C

**PROF. N. J. MACKINTOSH**  
Comparative Psychology of Learning and Cognition. Th. 12 (Eight lectures, 20, 27 Jan., 3, 10, 17 Feb., 2, 9, 16 Mar.)

**PROF. T. W. ROBBINS**  
Brain Mechanisms of Memory and Cognition. M. 10 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 6, 13 Mar.)

**Room 2, Austin Building**

**DR R. A. MCCARTHY**  
Cognitive Neuropsychology. Tu. 10 (Eight lectures, 18, 25 Jan., 1, 8, 15, 29 Feb., 7, 14 Mar.)

**Room 2, Austin Building**

**W. 10 (Eight lectures, 19, 26 Jan., 2, 9, 16 Feb., 1, 8, 15 Mar.)**

**Physiology Lecture Theatre 3**

---

**Section D**

**PROF. B. J. EVERITT AND DR S. BARON-COHEN**  
Abnormal Psychology. W. 11 (Eight lectures, 19, 26 Jan., 2, 9, 16 Feb., 1, 8, 15 Mar.)

**Physiology Lecture Theatre 3**

**PROF. R. PLOMIN**  
Abnormal Psychology Seminars. Th. 5 (Four meetings, 3, 10, 17 Feb., 2 Mar.)

**DR J. RUSSELL**  
Developmental Psychology. F. 11 (Eight lectures, 21, 28 Jan., 4, 11, 18 Feb., 3, 10, 17 Mar.)

**Physiology Lecture Theatre 3**

**DR J. STEVENSON-HINDE AND OTHERS**  
Developmental Psychology Seminars. W. 5 (Four meetings, 19, 26 Jan., 2, 9 Feb.)

**DR P. WHITTLE**  
Psychoanalysis. M. 12 (Eight lectures, 17, 24, 31 Jan., 7, 14, 28 Feb., 6, 13 Mar.)

---

Attention is drawn to lectures on Concepts of Relationships given by Professor R. A. Hinde, W. 11 (10, 17, 24 Nov.); Th. 10 (4, 18, 25 Nov.); F. 11 (5 Nov.) (Eight lectures, beginning 4 Nov.). For venue information, please enquire of the Faculty of Social and Political Sciences.

---

### ZOOLOGY

Course Organiser: Dr J. A. Clack  
E-mail: j.a.clack@zoo.cam.ac.uk

*Lectures will be given in the Department of Zoology, unless otherwise stated*

**Control of Cell Growth and Genome Stability**  
**DR J. RAFF, DR J. PINES, DR G. EVAN, PROF. M. RAFF, DR F. D’ADDA DI FAGAGNA, DR N. MCCARTHY, DR D. COVERLEY, DR T. KRUDE, DR M. JACKMAN, DR C. FEATHERSTONE AND PROF. S. P. JACKSON**  
(Twenty-four lectures). M. W. F. 9  
Module Organiser: Prof. S. P. Jackson

**Neural Mechanisms of Behaviour**  
**DR S. LAUGHLIN, PROF. M. BURROWS, DR B. HEDWIG, DR R. McCABE, PROF. E. KEVERNE AND PROF. C. M. BATE**  
(Twenty-four lectures). Tu. Th. S. 11  
Module Organiser: Dr S. Laughlin

**Topics in Vertebrate Evolution**  
**DR A. E. FRIDAY, DR J. A. CLACK, DR P. BARRETT, DR P. FOREY, DR A. R. MELNER, DR D. B. NORMAN AND DR P. UPCHURCH**  
(Twenty-four lectures). M. W. F. 10  
Module Organiser: Dr J. A. Clack

**Aquatic Ecology**  
**DR M. BROOKE, DR L. E. FRIDAY, DR D. C. ALDRIDGE, DR R. S. K. BARNES AND DR P. J. HERRING**  
(Twenty-four lectures). M. W. F. 11  
Module Organiser: Dr R. S. K. Barnes

---

**Behavioural Ecology**  
**PROF. T. H. CLUTTON-BROCK, PROF. N. B. DAVIES, DR W. A. FOSTER AND DR R. JOHNSTONE**  
(Twenty-four lectures). Tu. Th. S. 11  
Module Organiser: Prof. T. H. Clutton-Brock

**Mammalian Evolution and Faunal History**  
**DR A. E. FRIDAY, DR R. PREECE AND DR A. J. STUART**  
(Twenty-four lectures). M. W. F. 10  
Module Organiser: Dr A. E. Friday

**Animal Energetics: the cost of living**  
**DR G. ASKEW, DR R. BOUTILIER, PROF. A. CLARKE AND DR L. PECK**  
(Twenty-four lectures). Tu. Th. S. 10  
Module Organiser: Dr C. P. Ellington

**Control of Gene Expression**  
*From 5 Feb. lectures held in the Department of Biochemistry*  
**PROF. R. A. LASKEY, PROF. S. JACKSON, DR K. MEYER, DR M. V. TAYLOR, DR J. MURRAY, DR C. W. J. SMITH AND DR R. JACKSON**  
(Twenty-four lectures). M. W. F. 9  
Module Organiser: Prof. R. A. Laskey

---

**Human Biology**  
Lecturers to be announced  
(Six lectures). M. W. F. 10  
Module Organiser: Prof. T. H. Clutton-Brock
# NATURAL SCIENCES TRIPPOS, PART II (continued)

## Behaviour

**DR B. J. MCCABE, DR K. LALAND, DR G. BROWN,**  
**PROF. E. B. KEVERNE AND PROF. P. BATESON**  
(Twenty-four lectures). Tu. Th. S. 9  
Module Organiser: Prof. E. B. Keverne

## Organisation of the Cell

**PROF. R. LASKEY, DR M. ROBINSON, DR S. MUNRO,**  
**DR P. LUZIO, DR M. FREEMAN, DR H. SKAER,**  
**DR H. BAYLIS, DR S. LAUGHLIN AND DR C. SHARPE**  
(Twenty-four lectures). M. W. F. 5  
Module Organiser: Dr C. Sharpe

## Population and Community Ecology

**All lectures held in the Department of Plant Sciences**  
**DR P. GRUBB, DR W. AMOS, DR B. T. GRENFELL AND**  
**DR E. V. J. TANNER**  
(Twenty-four lectures). M. W. F. 5  
Module Organiser: Dr B. T. Grenfell

## Statistics for Part II and Graduate Biologists

**All lectures held in Large Lecture Theatre, Department of Plant Sciences**  
**DR B. J. MCCABE**  
(Ten lectures) 4 Oct. at 9 and 2; 5, 6, 7, 8, 11, 12, 13, 14  
Oct. at 2

## Practical work

Module Organiser: Dr B. J. McCabe  
(Note: early start of course)

## Zoology (continued)

### Developmental Biology

*All lectures held in Genetics Department*  
**PROF. C. M. BATE, PROF. J. GURDON,**  
**DR A. MARTINEZ ARIAS,**  
**DR D. ST. JOHNSTON, DR J. AHRINGER AND OTHERS**  
(Twenty-four lectures). M. Tu. F. 5  
Module Organiser: Prof. C. M. Bate

### Conservation Biology

**DR M. BROOKE, DR D. BRIGGS, DR W. AMOS,**  
**DR A. BALMFORD, DR E. V. J. TANNER,**  
**DR J. O’SULLIVAN AND DR I. D. HODGE**  
(Twenty-four lectures). M. W. F. 5  
Module Organiser: Dr A. Balmford

### Molecular and Developmental Approaches to Evolution

**PROF. M. AKAM, DR N. GOLDMAN, DR W. AMOS**  
**AND DR D. STERN**  
(Twenty-four lectures). M. W. F. 11  
Module Organiser: Prof. M. Akam
Research project support

DR C. W. J. SMITH AND OTHERS
Laboratory safety, experimental design, data management and communication skills. (4–8 Oct.)

DR L. C. PACKMAN AND OTHERS
Research techniques and instrumentation. (Twelve seminars, from 1 Nov.)

Research project colloquium

DR D. M. CARRINGTON AND DR T. R. HESKETH
(Joint chairs) Presentation of interim reports. Th. 9–5.30 (20 Jan.)

Options lectures

1. PROF. G. P. C. SALMOND AND OTHERS
   Bacterial virulence and antimicrobial chemotherapy. (Fifteen lectures)
   Option Organiser: Prof. G. P. C. Salmond

2. DR A. R. C. RAINE AND OTHERS
   Proteins, nucleic acids and their interactions. (Fifteen lectures)
   Option Organiser: Dr A. R. C. Raine

3. DR M. D. BRAND AND OTHERS
   Bioenergetics. (Fifteen lectures)
   Option organiser: Dr M. D. Brand

4. DR P. DUPREE AND OTHERS
   Plant molecular biology. (Fifteen lectures)
   Option Organiser: Dr P. Dupree

5. DR C. W. J. SMITH AND OTHERS
   Control of gene expression in eukaryotes. (Fifteen lectures in part joint with Part II Zoology)
   Option Organisers: Dr C. W. J. Smith and Prof. R. A. Laskey

6. DR J. P. LUZIO AND OTHERS
   Medical biochemistry. (Fifteen lectures)
   Option Organiser: Dr J. P. Luzio

7. DR J. BLACKBURN AND OTHERS
   Enzyme mechanisms and the evolution of enzyme function. (Fifteen lectures)
   Option Organiser: Dr J. Blackburn

8. PROF. J. C. METCALFE AND OTHERS
   Cardiovascular molecular and cellular biology. (Fifteen lectures)
   Option Organisers: Prof. J. C. Metcalfe and Dr A. A. Grace

9. DR T. R. HESKETH AND OTHERS
   Oncogenes, tumour suppressor genes and carcinogenesis. (Fifteen lectures in part joint with Option E of Part II Pathology)
   Option Organisers: Dr T. R. Hesketh and Dr N. Affara

10. DR A. M. TOLKOVSKY AND OTHERS
    Perspectives in molecular neurobiology. (Fifteen lectures)
    Option Organiser: Dr A. M. Tolkovsky

11. PROF. C. M. BATE AND OTHERS
    Developmental biology. (Twenty-four lectures joint with Part II Genetics, Plant Sciences, and Zoology)
    Option Organiser: Prof. C. M. Bate

12. DR D. J. ELLAR AND OTHERS
    Biotechnology (Fifteen lectures)
    Option Organiser: Dr D. J. Ellar

13. DR D. M. CARRINGTON AND OTHERS
    Regulation of the eukaryotic cell cycle. (Fifteen lectures)
    Option Organiser: Dr D. M. Carrington

Data handling classes

W. 3–5 from 9 Feb.
## COURSE L

### MAJOR OPTIONS

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. W. Allison</td>
<td>Tu. Th. S. 11</td>
</tr>
<tr>
<td><strong>Solid State Physics</strong></td>
<td></td>
</tr>
<tr>
<td>Prof. A. M. Donald</td>
<td>M. W. F. 9</td>
</tr>
<tr>
<td><strong>Structure and Properties of Condensed Matter</strong></td>
<td>M. W. F. 12</td>
</tr>
<tr>
<td>Prof. A. C. Fabian, Dr. M. P. Hobson and Dr. M. J. Rees</td>
<td></td>
</tr>
<tr>
<td><strong>Gravitational Astrophysics and Cosmology</strong></td>
<td>M. W. F. 12</td>
</tr>
<tr>
<td>Dr. J. R. Batley</td>
<td>Tu. Th. S. 10</td>
</tr>
<tr>
<td>Dr. K. F. Priestley and Dr. A. J. Haines</td>
<td>M. W. F. 11</td>
</tr>
<tr>
<td><strong>Particle Physics</strong></td>
<td>Tu. Th. S. 12</td>
</tr>
<tr>
<td>Dr. B. D. Simons</td>
<td></td>
</tr>
<tr>
<td><strong>Theoretical Concepts in Physics</strong></td>
<td>Tu. Th. S. 12</td>
</tr>
</tbody>
</table>

### MINOR OPTIONS

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. C. Ewerz</td>
<td>M. W. 12</td>
</tr>
<tr>
<td><strong>Gauge Field Theory</strong></td>
<td></td>
</tr>
<tr>
<td>Dr. D. J. C. Mackay</td>
<td>Tu. Th. 11</td>
</tr>
<tr>
<td><strong>Information Theory, Pattern Recognition and Neural Networks</strong></td>
<td>Tu. Th. 9</td>
</tr>
<tr>
<td>Dr. R. F. Carswell</td>
<td></td>
</tr>
<tr>
<td><strong>General Relativity</strong></td>
<td>Tu. Th. 9</td>
</tr>
<tr>
<td>Dr. J. A. Bland</td>
<td></td>
</tr>
<tr>
<td><strong>Low Dimensional Magnetism and Magnetic Information Storage Technology</strong></td>
<td>M. W. 12</td>
</tr>
<tr>
<td>Dr. B. D. Simons</td>
<td></td>
</tr>
<tr>
<td><strong>Phase Transitions and Collective Phenomena</strong></td>
<td>Tu. Th. 12</td>
</tr>
<tr>
<td>Dr. J. R. Cooper</td>
<td></td>
</tr>
<tr>
<td><strong>Superconductivity</strong></td>
<td>Tu. Th. 9</td>
</tr>
<tr>
<td>Prof. M. Pepper and Dr. C. H. W. Barnes</td>
<td>M. W. 9</td>
</tr>
<tr>
<td><strong>Quantum Effects in Low-dimensional Semiconductor Devices</strong></td>
<td>M. 11, F. 9</td>
</tr>
<tr>
<td>Dr. D. Hasko</td>
<td></td>
</tr>
<tr>
<td><strong>Microelectronics and Semiconductor Materials</strong></td>
<td>M. W. 9</td>
</tr>
<tr>
<td>Dr. N. C. Greenham and Dr. D. R. Richards</td>
<td>M. W. 10</td>
</tr>
<tr>
<td><strong>Optoelectronics</strong></td>
<td>Tu. Th. 10</td>
</tr>
<tr>
<td>Prof. J. E. Field and Others</td>
<td></td>
</tr>
<tr>
<td><strong>Shock Waves and Explosives</strong></td>
<td>W. F. 11</td>
</tr>
<tr>
<td>Dr. J. Melrose</td>
<td></td>
</tr>
<tr>
<td><strong>Polymers and Colloids</strong></td>
<td>Tu. Th. 11</td>
</tr>
<tr>
<td>Dr. A. D. Challinor and Dr. C. J. L. Doban</td>
<td>M. W. 10</td>
</tr>
<tr>
<td><strong>Physical Applications of Geometric Algebra</strong></td>
<td>M. W. 10</td>
</tr>
<tr>
<td>Dr. C. A. Haniff</td>
<td></td>
</tr>
<tr>
<td><strong>The Frontiers of Experimental Astrophysics</strong></td>
<td>Tu. Th. 10</td>
</tr>
<tr>
<td>Dr. P. P. Denjoy and Others</td>
<td></td>
</tr>
<tr>
<td><strong>Medical Physics</strong></td>
<td>M. W. 10</td>
</tr>
<tr>
<td>Dr. W. G. Rees</td>
<td></td>
</tr>
<tr>
<td><strong>Physics of Remote Sensing</strong></td>
<td>Tu. Th. 12</td>
</tr>
<tr>
<td>Dr. M. C. Payne</td>
<td></td>
</tr>
<tr>
<td><strong>Quantum Information</strong></td>
<td>W. F. 11</td>
</tr>
<tr>
<td>Dr. P. Monthoux and Dr. M. Sprik</td>
<td></td>
</tr>
<tr>
<td><strong>Numerical Simulation Methods in Physics and Chemistry</strong></td>
<td>M. W. 2</td>
</tr>
<tr>
<td>Prof. J-P. Hansen and Dr. M. Warner</td>
<td></td>
</tr>
<tr>
<td><strong>Theory of Complex Fluids</strong></td>
<td>Tu. Th. 2</td>
</tr>
</tbody>
</table>

---

Except where otherwise indicated, all Part III Mathematics courses are given in Seminar Room A, DAMTP, Silver Street.
### EXPERIMENTAL AND THEORETICAL PHYSICS (continued)

<table>
<thead>
<tr>
<th>Course M</th>
<th>Course N</th>
<th>Course T</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE STAFF OF THE CA VENDISH LABORATORY (S)</td>
<td>THE STAFF OF THE CA VENDISH LABORATORY (S)</td>
<td>DR J. A. C. BLAND AND OTHERS</td>
</tr>
<tr>
<td></td>
<td>(first four lectures)</td>
<td>The same continued</td>
</tr>
<tr>
<td></td>
<td>Dr G. Rajagopal (S)</td>
<td>DR J. A. C. BLAND AND OTHERS</td>
</tr>
<tr>
<td></td>
<td>Modelling with Supercomputers. F. 10</td>
<td>The same continued</td>
</tr>
<tr>
<td></td>
<td>(last four lectures)</td>
<td>The same continued</td>
</tr>
<tr>
<td></td>
<td>THE STAFF OF THE CA VENDISH LABORATORY</td>
<td>The same continued</td>
</tr>
<tr>
<td></td>
<td>Current Research Work in the Cavendish Laboratory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open Days for students reading Part II or Part III Physics. W. 2–5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Open Days will start with introductory talks at 2 p.m. in the Cavendish Laboratory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research in the Rutherford Building (2 Feb. in Small Lecture Theatre)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research in the TCM Group (9 Feb. at 2.15 p.m. in TCM Seminar Room)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research in the Mott Building I (16 Feb. in Small Lecture Theatre)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research in the Mott Building II (23 Feb. in Small Lecture Theatre)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DR. J. A. C. BLAND AND OTHERS</td>
<td>DR. J. A. C. BLAND AND OTHERS</td>
</tr>
<tr>
<td></td>
<td>The same continued</td>
<td>The same continued</td>
</tr>
<tr>
<td></td>
<td>Option 1 Basin Dynamics</td>
<td>Option 2 Ridges and the Sea Floor</td>
</tr>
<tr>
<td></td>
<td>DR. N. J. WHITE, DR. J. A. JACKSON, DR. P. F. FRIEND</td>
<td>DR. M. J. BICKLE, DR. M. C. SINHA,</td>
</tr>
<tr>
<td></td>
<td>AND DR. R. ENGLAND</td>
<td>PROF. R. S. WHITE AND DR. A. SCHULTZ</td>
</tr>
<tr>
<td></td>
<td>Lectures. M. 9, Th. 10 Tilley Room</td>
<td>Lectures. Tu. 9, F. 2 Harker Room</td>
</tr>
<tr>
<td></td>
<td>Practicals. M. 10–11.30, Th. 11–12.30 Petrology Laboratory</td>
<td>Practicals. Tu. 10–11.30, F. 3–4.30 Petrology Laboratory</td>
</tr>
<tr>
<td></td>
<td>Convenor: Dr J. A. Jackson</td>
<td>Convenor: Dr M. C. Sinha</td>
</tr>
<tr>
<td></td>
<td>Option 3 Metamorphic and Igneous Processes</td>
<td>Options 6–10 and M4–M6 continue for eight revision sessions each</td>
</tr>
<tr>
<td></td>
<td>DR. T. J. B. HOLLAND, DR. M. J. BICKLE,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROF. D. P. MCKENZIE, DR. S. GIBSON</td>
<td>AND DR. D. M. FYLE</td>
</tr>
<tr>
<td></td>
<td>Lectures. W. F. 9 Harker Room</td>
<td>Lectures. W. F. 10–11.30 Petrology Laboratory</td>
</tr>
<tr>
<td></td>
<td>Practicals. W. F. 10–11.30 Petrology Laboratory</td>
<td>Convenor: Dr M. J. Bickle</td>
</tr>
</tbody>
</table>

### GEOLOGICAL SCIENCES AND MINERAL SCIENCES

Students attend the seminar course in the Michaelmas Term and take three options in the Lent and Easter Term.
GEOLOGICAL SCIENCES AND MINERAL SCIENCES (continued)

Option M3 Spectroscopic Studies of Minerals
PROF. E. SALJE, DR I. FARNAN, DR A. SHEN, DR S. A. T. REDFERN AND DR M. T. DOVE
Lectures. W. 9, Th. 2. Harker Room II
Practicals. W. 10-11.30, Th. 3-4.30. Harker Room II
Convenor: Dr I. Farnan

Option 4 Basin-fill Architecture and Diagenesis
DR P. F. FRIEND, PROF. I. N. MCCAVE AND DR J. A. D. DICKSON
Lectures. Tu. Th. 2. Harker Room
Practicals. Tu. Th. 3-4.30. Structural Laboratory
Convenor: Prof. I. N. McCave

Option 5 Evolutionary Palaeobiology
DR D. B. NORMAN, DR N. J. BUTTERFIELD, DR P. UPCHURCH AND DR J. DEAN
Lectures. M. F. 2. Harker Room
Practicals. M. F. 3-4.30. Palaeontology Laboratory
Convenor: Dr N. J. Butterfield

Option M1 Mineralogy of the Earth and Planetary Deep Interiors
DR A. SHEN, DR S. A. T. REDFERN, DR M. WELCH AND DR I. FARNAN
Lectures. Tu. 11, W. 9. Oxburgh Room
Practicals. Tu. 12-1.30, W. 2-3.30. Petrology Laboratory
Convenor: Dr A. Shen

Option M2 Melts, Glasses, Disordered Systems
DR I. FARNAN AND DR A. SHEN
Lectures. Th. 2, F. 11. Oxburgh Room
Practicals. Th. 3-4.30, F. 12-1.30. Oxburgh Room
Convenor: Dr I. Farnan

Easter Field Course
16-23 March 2000

MATERIALS SCIENCE AND METALLURGY
Course Co-ordinator: Dr Z. H. Barber E-mail: Part III@msm.cam.ac.uk

Lecture venues to be announced

INDUSTRIAL VISITORS
To be announced

Industrial Visit
All day (2 Dec.)

Practical Classes
M. Tu. W. 2-5. Two sessions to be chosen per week

Examples Classes
(Details to be announced)

Management Option
(Details to be announced)

Language Option
Two hours per week: M. 4-6 or Tu. 4-6 or W. 2-4 or Th. 2-4 or Th. 4-6 or F. 2-4

INDUSTRIAL VISITORS
To be announced

Industrial Visit
Half day (15 Mar.)

The same continued

Examples Classes
(Details to be announced)

Management Option
(Details to be announced)

Language Option
The same continued

continued >